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SURVIVAL

GUIDE

Vol. 5 Issue 9

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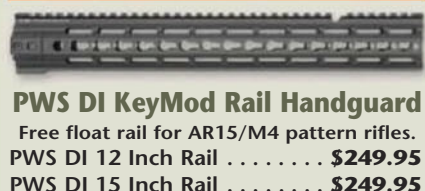


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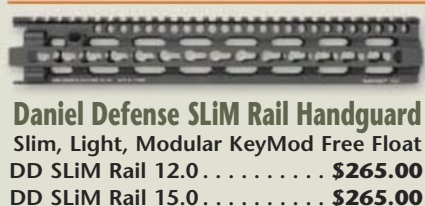
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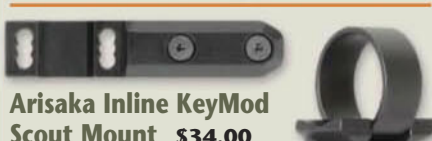
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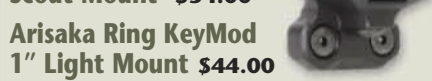
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WORDS

FIRST

URBAN SURVIVAL

"Cities" developed organically from the earliest times in human history, presumably for the mutual survival and upliftment of all those who were a part of it. The city became the locus for heightened social interaction, where farmers could barter and sell their goods to the far reaches of the domain and where the brightest and the best could answer your questions and resolve your needs, whether technical, medical or some other issue. It's obvious why cities developed, although they have not always been so altruistic.

We know, for example, that the great Mayan cities most likely had theocratic rulers whose orders were law, and sometimes, that worked well. But it could also spell the demise for the city if deluded, self-important, fanatical leaders saw themselves as more important than "the people."

Right here, in North America, there was the great city of Cahokia in what is now Illinois, which emerged, dominated, changed and improved the lives of everyone it touched. Then, for various reasons, it disappeared.

Cities and civilizations arise out of the common interests of those they serve, and they seem to follow a pattern of growth: peaking, declining, disappearing.

Every school child has heard about the great Roman empire and how it "fell." We study the details and shake our heads at the Roman stupidity that allowed such greatness to fall. Unfortunately, some here, in the United States,

believe that such a thing will never happen to us.

Really? Well, we don't want it to happen to us, of course, but consider that a civilization is a living, dynamic entity. It's essence, character and health are all determined by the collective mindset and collective actions of all the participants, whether you recognize that or not. And it does seem to more and more of us that the collective mindset is too often about short-term gains and not about the health, survival and vitality of the city, the culture and our civilization.

If you're one of those people, that probably explains why you're reading *American Survival Guide*. We aren't sure exactly where we are as a people in the curve of the decline of a civilization or whether we can affect that decline. However, there is always something an individual can do.

To gain a higher perspective of what you can do in your own life, in your own family and in your own town, I strongly encourage you to read Morris Berman's *The Twilight of American Culture*. There are lots of good ideas in this book. In addition, continue to read *American Survival Guide* for the practical details of what you can do now to improve your survival quotient in the city—and in the wilderness.

In this issue, we provide you with many thought-provoking articles about what can (and often does) occur when our modern structures break down—either from the ravages of nature or from man, himself (war, terrorism, disease, etc.).

Christopher Nyerges, Editor

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EDITORIAL

Doug Jeffrey Editorial Director
Christopher Nyerges Editor
Nino Bosaz Editor-at-Large
Amy Maclean Managing Editor
Henry Z. De Kuyper Senior Staff Photographer

DESIGN

Nadia Sverdlova Design Director

CONTRIBUTORS

Joe Alton, M.D., Pascal Baudar, Dana Benner, John Brewer, Craig Caudill, Jim Cobb, Will Dabbs, M.D., Michael D'Angona, Kevin Estela, Jack L. Goodwin, Nhan-Esteban Khuong, Torrey Kim, Garrett Lucas, John D. McCann, Len McDougall, Dude McLean, William Myers, Larry Schwartz, Urban Nature Girl Helen, Al J. Venter

ADVERTISING

Spiro Demetriadi Publisher
Gabe Frimmel Ad Sales Director
(714) 200-1930
gfrimmel@engagedmediainc.com
Casey Clifford Senior Account Executive
(714) 200-1982
Mark Pack Senior Account Executive
(714) 200-1939
Charles Dorr Account Executive
(714) 200-1931
John Cabral Advertising Design
Gennifer Merriday Advertising Traffic Coordinator
Kristan Beckman Advertising Traffic Coordinator

DIRECT MARKETING GROUP

John Bartulin (866) 866-5146 ext. 2746
Jhovyn Zerna (866) 866-5146 ext. 2965

OPERATIONS

Subroto Mallick Business Analytic Manager
Robert Short IT Manager
Parveen Kumar Newsstand and Circulation Analyst
Shailesh Khandelwal Subscriptions Manager
Alex Mendoza Administrative Assistant
Jeno Torres Administrative Assistant
Victoria Van Vlear Intern Program Manager

EDITORIAL, PRODUCTION & SALES OFFICE

22840 Savi Ranch Parkway, #200, Yorba Linda, CA 92887
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Mike Savino CEO
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IS COMING



Fire, flood, hurricane, tornado, earthquake, terrorism, nuclear/biological/chemical, destruction, panic. These disasters present lethal challenges in daylight. They are compounded by darkness. Are you ready? TNVC is the only place to obtain all the necessary low light and no light gear to not only survive, but endure and prevail when disaster strikes. Don't be caught in the dark!

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PRODUCTS

NEW

1

Dream Hammock Sparrow

Sleeping and relaxing off the ground and away from insects, snakes and other unwanted creatures is the way to go. Dream Hammock makes it easy for you to do exactly that.

The Sparrow hammock is rich in features, including an asymmetrical setup so you can comfortably sleep in almost any position. Inside, you will find plenty of space to hang your gear along the ridgeline. Dual zippers on each side make entry and exit easy, no matter where you set it up.

The Sparrow comes in many color options, and customization for your needs is available. Camouflage options make these incredibly useful to get away and not be seen, if so desired. Camo covers with vents or no-see-um netting make this hammock a true four-season option.

MSRP

\$175

URL

www.Dream-Hammock.com

2

SAS Tactical Survival Bow

The Survival Archery Systems Tactical Survival Bow is a dream come true for those who want to take game and retain noise discipline at the same time. The new camouflage options for the SAS bow make it even easier for the user to avoid detection.

This is the only survival bow on the market with internal storage capabilities for break-down arrows. It is made with marine-grade aluminum to resist any conditions you want to use or store it in. It is expertly designed to fold compactly and fits into any 72-hour backpack. The Tactical Survival Bow is an excellent choice for survival and everyday hunting use.

MSRP

\$199.95

URL

www.SurvivalArcherySystems.com

3

Surefire 2211 Luminox LED Wrist Light

Surefire has combined a top-shelf quality watch from Luminox with an always-indispensable flashlight in one effective piece of equipment. The Swiss-made timepiece is of the highest quality and features illuminated hands, as well as a lightweight, hard-anodized aerospace aluminum body.

The hands-free usefulness of the tactical LED light was designed after much input from tactically minded individuals. It can be utilized in any low-light scenario, including one in which you must bring a firearm to use. The variable output of the light makes it useful in any condition and can easily be switched on with an ergonomic switch. The light is rechargeable, and the watch includes its own lithium battery source.

MSRP

\$795

URL

www.Surefire.com

4

Titan Survivorcord

If you find yourself stranded and in a desperate situation, a paracord bracelet could be just the thing to give you some much-needed assistance. The bracelet is made of Titan Survivorcord and incorporates the same MIL-SPEC requirements of standard paracord. It also features added strands of fishing line, waxed jute and brass wire throughout its length. This makes it much easier to secure shelters, start fires, and catch game and fish.

The options are numerous if you carry this instead of standard cordage. Make a bracelet or roll it up and store it in your go bag. Either way, TITAN Survivorcord should be included with everyone's survival supplies.

MSRP

\$24.95

URL

www.TitanParacord.com

5

GOAL Zero Mini Lighthouse Lantern

Sometimes, smaller is better. And whether you find yourself in a survival situation, are preparing for a disaster or away on a hunting trip, you will want—and need—a good, reliable light source.

This mini-lantern has a whopping 500 hours of run time on its lowest setting. It is a versatile, little item with fold-down legs, magnets and a hook for multiple methods of operation. To match its old-world usefulness to new-world technology, it also has a 1A USB port to give one full charge to a phone device. For grid-down usefulness, purchase one of the separate Goal Zero solar panel options.

MSRP

\$59.99

URL

www.GoalZero.com

6

ETON Scorpion

For long-term disaster-preparedness, "no batteries needed" is essential. The Scorpion hand crank radio will meet all your needs. You will get AM/FM/NOAA reception to inform you with vital information. The hand-cranked power will also help you light the night with its integrated LED light. The Scorpion features rugged construction, so toss it in your kit, trunk or toolbox without worry that it will get broken.

Another great feature: If your cell phone is still operational but has no battery, plug it into the Scorpion and crank away for power.

MSRP

\$59.99

URL

www.EtonCorp.com



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2

3

4

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6

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PRODUCTS

NEW

7

MSK-1 Multi-Scenario Knife

Looking for a tough, all-around survival knife? Look no further. Ultimate Survival Tips and Freeman Outdoor Gear have teamed up to offer a one-of-a-kind, rugged survival knife system. The blade is designed with incredible balance and can be used equally well felling a small tree or doing fine knife work. Some of the unique features of the MSK-1 include a stainless-steel bow drill divot and a curved pommel-end fire steel striker. It has a beefy, quarter-inch-thick full-tang fixed blade made to handle anything you can throw at it. You can easily remove the handles with a coin, zipper pull or flat rock to find an incredibly useful mini-survival kit. This knife is easy in the hand and ready to get to work for you.

MSRP

\$350

URL

www.UltimateSurvivalTips.com

9

Bobcat Flipper EDC

There is no tool more practical in a survival situation than a knife. The Bobcat Flipper EDC from Marty Young Custom Knives is one of the easiest ways to comfortably carry this ever-important tool. The blade is CPM154 steel and holds an edge like a boss. It has titanium scales to make it a bomb-proof carry option and features caged bearings for flawless, one-hand opening. Its overall length is 8.75 inches, which makes it compact enough to carry comfortably and robust enough to do what the name implies—everyday tasks. Its classic point is terrific while working at home or in the wilderness, assisting you with bushcraft needs.

MSRP

\$385

URL

www.MartyYoungCustomKnives.com

11

Magpul DAKA Pouch

Leave it to Magpul to make a tactical zip bag. This pouch is a fantastic choice to keep sensitive items in a place that will keep them safe and dry.

Although these bags are not submersible nor 100 percent waterproof guaranteed, they still provide an excellent way to get yourself dirty, grimy and wet and know your gear is still good to go. Simple but sturdy, this pouch has welded seams, a YKK AquaGuard zipper with a paracord pull and attachments for carabiners. The Magpul DAKA pouch comes in three sizes and two colors so you can organize ammunition, electrical supplies or other small, but important, items.

MSRP

Varies with size

URL

www.Magpul.com

8

Hooyman MegaBite Hand Saw

A desirable item for nearly everyone's kit is a portable handsaw, and Hooyman has a great one. They come in two models. The compact model folds a 6-inch blade into a 6.5-inch handle. The standard model stows an 8-inch blade into an 8.5-inch handle. The four-edge tooth design makes these indispensable tools for clearing out shooting lanes for hunting, bushcrafting and survival needs or to gather materials for setting up a hide for hunting or recon needs. There is no concern with breakage because of its high-carbon SK5 steel and tapered blade design. These small workhorses cut through wood like tiny chainsaws, and you avoid hotspots on your hands as a result of its comfortable ergonomic, rubber, overmolded handle.

MSRP

\$34.99–\$36.99

URL

www.BtiBrands.com

10

KRISS Vector Gen II CRB

When stuff hits the fan, it would be nice if that ammo for your sidearm could also be used in your long gun (and vice versa). KRISS offers the Vector Gen II in just such a configuration. This firearm will fire both .45ACP and 9mm rounds with no problem. The KRISS system is unique in that it redirects energy down and away from the shooter. This means target acquisition is much more efficient when shooting. This will prove to be a lifesaver when your life is on the line. The Vector uses Glock magazines for both shooting platforms. It comes with flip-up sights and Picatinny rails on both the top and bottom for all optics, lights and other important items, should you desire to use it.

MSRP

\$1,499

URL

www.Kriss-Usa.com

12

Maven B.3 Binocular

Observation and awareness of your surroundings is a must-have skill to assist in avoiding danger and gathering the information you need to make critical decisions. The Maven B.3 binocular is an excellent choice for doing just that. It features crystal-clear glass and comes in a compact, yet powerful, package. This binocular is available with customizable options in optic configuration, as well as the housing coloration. The glass has an incredible scratch- and oil-resistant coating, making the Maven B.3 Binocular a perfect choice for hardcore use in an emergency situation.

MSRP

\$500

URL

www.MavenBuilt.com



11



12



10



7



9



8



POST-COL PROFESSI

**THESE TOP 10 TRADES WILL STAND
THE TEST OF TIME AND TURMOIL.**

BY JACK L. GOODWIN

LAPSE ONS



The world, as you know it, has come to a succinct end, leaving society, civilization and governments shattered beyond all recognition.

What's left of the population is scattered in disorganized chaos. Every facet of life has been whittled down to its core. Health-care, civil infrastructure and free-market capitalism are now memories of a life once taken for granted.

No longer can you go to the store for a gallon of milk or drop your truck off for an oil change. There's no IKEA, Wal-Mart or police department, only the wit and resources of those with the foresight to plan ahead.

But there will always be a need for doctors, mechanics and farmers.

WHAT ARE YOUR SKILLS?

In a long-term survival situation, when the basic necessities of life we have come to rely on from others is dumped in our own laps, our skills and abilities will be all that's left to sustain us in the long run. If there is no store to go to tomorrow, do you know where your food would come from? Can you milk a cow or can tomatoes? If your house were leveled by a hurricane, would you know how to rebuild it? Can you mix mortar or plumb a wall? If your vehicle needed repair, would you know how to fix it? Do you know what an alternator does? Could you locate and fix a busted fuel pump?

A mechanic, carpenter, doctor or engineer will fare well in a post-apocalyptic world, because these professions will be rare commodities and will command a premium when it comes to bartering goods for services. Skillful people will be sought after.

It would serve a prepper well to study up on the following areas and become familiar with a host of low-tech professions that have stood the test of time. Obviously, one person can't be all things, so don't attempt to become a jack-of-all-trades ... or, as the saying goes, you'll end up master of none.

Which skills will be most sought after and have the most value to a community trying to rebuild? Let's start with the hot, hard stuff.

BLACKSMITH/METALWORKER

When you grow tired of fastening shards of glass to sticks, you'll wish you had access to a blacksmith who could hammer out a spear tip or cast some bullets for your six-shooter. How about a new plow blade?

Not only can these folks produce weapons and tools, they are also adept at fixing most any metal object, such as lengths of chain, wheel hubs, gears and farming implements.



◀ Above: If you know your way around a forge, you'll be ready to cast bullets, hammer out blades and craft many other valuable trade goods.

◀ Below: Faith is a cornerstone of having a solid survival mindset. Both are necessities in good times and bad.

In the past 20 years, the art of blacksmithing has enjoyed a resurgence in popularity, thanks, in part, to the do-it-yourself movement. There are hundreds of blacksmith courses, clubs and organizations around the country, all dedicated to furthering education in the art of metal work.

BUTCHER

Some will tell you that killing the deer is the easy part of hunting. Dragging it back to your camp, hoisting it up on a stand and making that first slice through its flesh can be very difficult. One slip of the knife, and you can cut the bladder or bowels, spilling bile everywhere and spoiling the meat.

In the absence of grocery stores, butchers will play an important role, not only processing game, but also keeping the meat fresh and edible while minimizing waste. In addition to



“THERE ARE SURVIVAL SKILLS, AND THERE ARE SURVIVAL PROFESSIONS. DO YOU HAVE ONE?”

cutting, grinding and processing meats, butchers must understand health practices, be able to take care of their knives and know slaughtering techniques for all kinds of animals.

CARPENTER AND MASON

If you think a carpenter just nails pieces of wood together, you're in for a big surprise when it comes time to actually pick up a hammer. Skills a good carpenter needs include algebra, geometry, physics, architecture and engineering. How much weight can a 2x4 hold over a span of 8 feet? What does a load-bearing wall look like? Building a simple shed or doghouse is easy enough, but having the ability to plan and construct a structurally sound shelter is another matter. Keep in mind that there are vocational schools, technical colleges and online or traditional colleges available that teach carpentry.

Stonemasons, on the other hand, are adept at building walls, foundations, fireplaces and stoves. They work diligently with chisels and trowels and have a deep understanding of hard materials such as rock and concrete.

CLERGYMAN

No act of man or God can shake some people's faith. After an emergency or during a long-term hardship situation, religious leaders will be as important as food and shelter for some people. No matter the circumstance, religion will always be relevant, because there will be a need for prayers for the sick and dying, counseling for the distraught and funerals, in addition to happier occasions to officiate at, such as weddings and baptisms.

Although there are schools specifically for those who want to enter into religious work, sometimes, all that is needed to salve souls is a religious text, some faith and a good speaking voice.

DOCTOR, NURSE AND EMT

There has never been a disaster, emergency or other calamity scenario that didn't have casualties. If there is a person who should be near the top of the list of those in demand, it's one with medical training.

The human body is a complex machine, and it takes a great deal of schooling to heal the sick, fix the damaged and operate on the injured. Those with medical training know how to handle most every trauma case. They can also administer blood transfusions and have extensive knowledge of medicines and their uses. Make no mistake: If you're a doctor in a post-apocalyptic wasteland, you can write your own ticket.

ENGINEER AND MECHANIC

Most scientific concepts are complicated, confusing and detailed. Understanding solar panels, steam power or the benefits of a simple windmill is one thing, but designing and building a working example is a completely different story. How do you build an electric grid or convert a diesel engine to run on biofuels without engineering or mechanical knowledge?

Simple tasks, such as repairing a bicycle, adjusting the brakes on your car or mending the firing pin on a pistol, can seem insurmountable to a lot of people. And making mistakes when setting up things such as a septic system or a clean water-filtering site can cause illness or even death.

Not only is having a host of tools to do a variety of jobs necessary, knowledge of the application of those tools is paramount. People go to school for years to gain these skills.

◀ Below: Skills in processing raised livestock and hunted game efficiently and without waste are worth a great deal in a developing society.



10 HOW-TO BOOKS WORTH OWNING



After an end-of-the-world scenario has occurred, getting the right group of people together who possess a great cross-section of survival professions will be a miracle, so you might have to wing it.

Granted, some of the professions mentioned here take a great deal of education and on-the-job training in order for practitioners to become proficient. But with the right set of books, you just might have enough knowledge to see you through.

Here are 10 good books to pick up from your local library to start you in the right direction. All of them are available through several online bookstores, and several are available on authors' websites.

- ❖ *A Blacksmithing Primer* by Randy McDaniel
- ❖ *Whole Beast Butchery: The Complete Visual Guide to Beef, Lamb, and Pork* by Ryan Farr
- ❖ *Carpentry* (5th edition) by Leonard Koel
- ❖ *The Survival Medicine Handbook* by Joseph Alton and Amy Alton
- ❖ *Hunt, Gather, Cook* by Hank Shaw
- ❖ *Root Cellaring* by Mike and Nancy Bubel
- ❖ *The Backyard Homestead Guide to Raising Farm Animals* by Gail Damerow
- ❖ *The Encyclopedia of Country Living* by Carla Emery
- ❖ *The Compleat Distiller* by Mike Nixon and Mike McCaw
- ❖ *Rifle Marksmanship* by U.S. Marine Corps



"THERE IS NO WAY YOU'RE GOING TO BE A DOCTOR WHO'S ALSO A SKILLED BLACKSMITH, AND IT'S VERY UNLIKELY YOU'LL COME ACROSS A MECHANICAL ENGINEER WITH ANIMAL HUSBANDRY SKILLS."

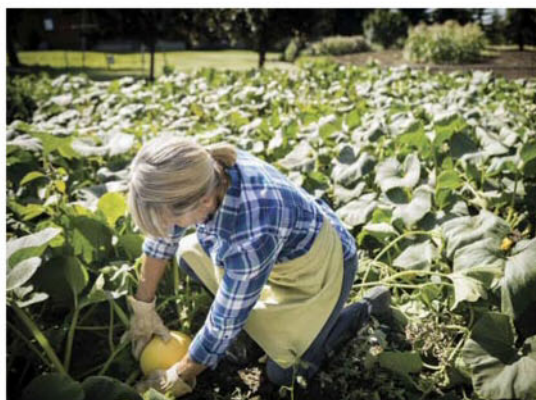


➤ Below: There is a lot to know about raising livestock successfully, and not everyone can produce the amount of meat (and animal byproducts such as milk and cheese) from animals that will be needed for a community. It's one thing to butcher a pig for dinner, but it's another thing to raise its replacement.

FARMER AND HOMESTEADER

You can sleep out in the rain and drink from puddles, but you won't last long without food. Farmers know the land, crop cycles and the nutrients needed for a variety of soils to produce abundant crops. They understand the weather, the soil, the water and what grows best in different climates.

Ranchers have the ability to organize a sustainable source of livestock for food (and



◀ Above and left: Growing your own food takes knowledge, skills, patience and fertile soil. It isn't something everyone can do, so acquiring these skills is valuable.

clothing), whereas domestic skills, such as baking, cooking, sewing, canning and food preservation, are learned through experience these days. And just like farmers, backyard gardeners will need to know their stuff. Knowing what to plant, when to plant it and how to make it grow are valuable to a community.

While modern farming is designed to feed millions, consider small gardens and animal pens to sustain a few dozen.

LEADER AND LAWMAKER

Communities always need rules and laws, but more important are leaders and decision-makers—those pressed into the position of guiding a group of people toward a common goal. These are skilled positions.

The person who undertakes a leadership role must be a delegator, good listener, great speaker, inspirational, understanding and responsible. The organization of a system that provides protection, as well as leadership, falls on the brave, because as soon as something goes wrong, they're the first to be blamed.

MOONSHINER, BREWER AND VINTNER

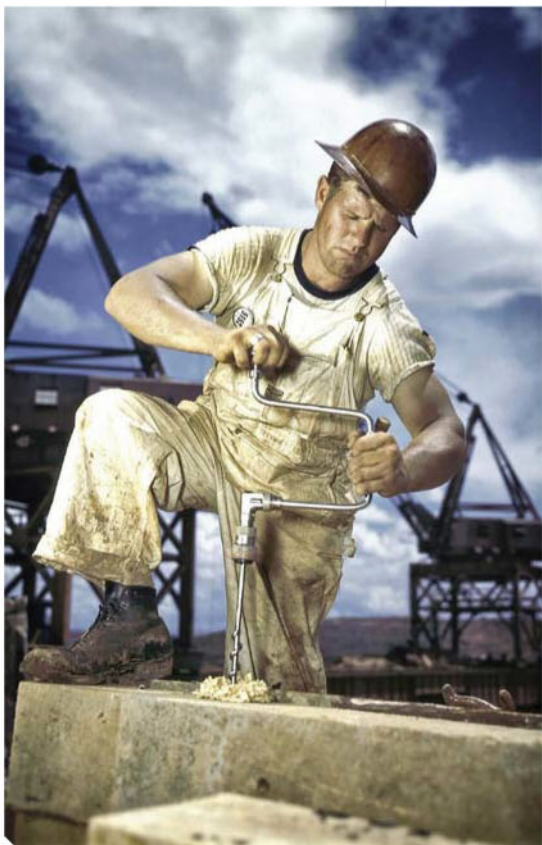
If we're honest, there will always be a demand for alcohol. Consider ancient times, when the process of brewing beer



◀ *Left:* Firearms proficiency is paramount in peaceful times or during civil unrest. A smart play is to learn how to hunt for your own food, defend yourself, your homeland or your homestead before things get out of hand.

◀ *Below:* After a disaster that leaves communities on their own, workers skilled in a few basic areas will be invaluable, especially because many of these skills have been taken for granted in a civilized society.

“EVERY FACET OF LIFE HAS BEEN WHITTLED DOWN TO ITS CORE. HEALTHCARE, CIVIL INFRASTRUCTURE AND FREE-MARKET CAPITALISM ARE NOW MEMORIES OF A LIFE ONCE TAKEN FOR GRANTED.”



actually made dirty water clean to drink, and low-alcohol brews were viable alternatives to bacteria-laced water sources.

Brewing beer, stomping grapes into wine and distilling grain into alcohol can be prized skills desired by many. Alcohol can also be used as a sterilizer and for its natural antibacterial properties. Harnessing the power of the still or the mash pot can produce a suitable barter product.

GUNSMITH AND MARKSMAN

Fieldstripping an AR-15 or breaking down a 1911 for maintenance and cleaning are important skills not everyone has, but they can be learned by doing.

Nevertheless, using those tools for hunting or security isn't something that can be learned quickly. The ability to hunt and fish is just as valuable. Knowing a game animal's habitat, how much meat a certain animal will yield and what is necessary to harvest an animal quickly and humanely can benefit an entire hungry community.

A skilled rifleman can help keep a community secure. An accomplished marksman has excellent eyesight, knowledge of the mechanics of weapons and a deep understanding of weapon ballistics. These are necessary skills in hostile situations.

READY TO APPLY?

There will be such a seismic shift in our lives that even the very concept of commerce could be set back years—maybe decades. The only people logically expected to survive are those who possess goods or services others are willing to buy or barter for or those who have watertight survival skills.

Within these 10 broad skills are dozens of sub-skills that can also be highly valuable. Professions are a choice, so why not choose one that will not only benefit you but also a whole, new society of people clamoring for goods and services in the wake of total collapse?

Sure, you can navigate through the woods with a compass made from a magnetized sewing needle, and you can start a fire with a polished soda can, but what about all the trades and professions derived from the skills that have largely been taken for granted?

There are survival skills, and there are survival professions. Do *you* have one? **ASG**



WHEN CASH CRASHES AND BURNS

HOW TO MAKE DO WITH AN
EMPTY WALLET AFTER THE
ECONOMY CRUMBLES

BY JOHN BREWER



TO BANK OR NOT TO BANK?



The Federal Deposit Insurance Corporation (FDIC) insures the accounts in banks up to \$250,000. This means that if the bank fails, up to \$250,000 per account will be insured.

However, what if it isn't the bank that fails but instead, the entire banking system? Or the government? Your money and the money of millions of others would be lost. So, is it smart to keep your money in a bank to begin with? The answer isn't as obvious as it might seem.

Generally, banks are secure places to keep your money. They offer financial incentives to keep your money there (albeit small), and you have access to your money via ATM machines and stores all over the world.

On the other hand, during emergencies, one of the first things to fail during a catastrophe is the electric grid. Banks can't do business if they can't open, and ATMs can't operate without electricity. Plus, banks don't keep the kind of large amounts of cash necessary to handle a panic or a "run on the banks."

Your situation will vary, but it's always a good idea to keep a certain amount of money on hand in a secure place (such as a safe or secure hiding place) for emergencies.



Money—in all its forms—is the standard medium of exchange, for good or for ill. We work for it, play with it and use it as a tool to increase our comfort. Money controls all aspects of our lives, and many will do whatever it takes to get more of it.

On the morning of October 29, 1929, most people began their day like any other—in their houses, on their farms, at their jobs with their families—completely unaware of the collapse that would tear apart these foundations and plunge most Americans into a global economic crisis.

In the ensuing years, industrial production would drop by 46 percent and foreign trade by 70 percent, and unemployment would increase 607 percent. Many didn't have a dime to their names, no house, no farm, no land, no job, no nothing but the desire to feed their families and survive.

The frightening thing is that it could happen again. Economic collapses such as the ones seen in Greece and Venezuela in recent years could happen in the United States



➤ Economic collapse can be a result of many factors—either domestic terror or worldwide disaster, such as a war or pandemic.

and could affect the entire world.

If your debit card quit working tomorrow, would you be ready for what came next?

LIFE BEFORE MONEY

It's difficult to imagine life before money, because such a reality never actually existed. Since the dawn of man, there has always been some sort of economy, because there has always been a need for goods and services. One man's fish could be traded for another man's basket. For hundreds of years, the rarity of salt in certain areas made it a currency; and seashells, gems, rocks and pieces of ivory and bone have all been the backbone of economies at one time or another.

Currency during the Weimar Republic in Germany before the rise of Nazism was nearly useless, as was the yen in post-World War II Japan. During an economic collapse, several things take place: Inflation runs rampant, and the price of goods increases to the point that currency becomes valueless. If there is no government to back the currency—as in the South just after the American Civil War—money's value disappears.

CASH BURNED

Times are different now, thanks to technology.

"One of the biggest vulnerabilities we have as a society is that everything is electric," says Richard Duarte in his book, *Quick Start Guide: Surviving an Urban Disaster*. "There are very few things that will work if there is a widespread power outage in a large metropolitan area."

The concept of money and everything learned in Econ 101 classes go out the window after a long-term disaster, when



➤ When cash becomes only as valuable as the paper it is printed on, only resourceful people and those who planned accordingly will come out on top.

"ARE YOU WILLING TO TRADE YOUR LAST BOX OF VEGETABLES FOR A PIECE OF METAL THAT MIGHT NOT HAVE ANY REAL-WORLD VALUE?"

the paper in your wallet becomes useless. When \$10 no longer buys anything at the store or anything on the street, what do you do? You revert to the next viable form of currency—precious metals and rare gems.

According to Jonathan Kosares, vice president for sales and marketing with USA Gold, the most pressing reason for purchasing gold is financial: to protect assets in the event of inflation.

"Gold and silver were very beneficial in the latest crisis," says Kosares of the 2008 recession. "We had a loss across financial assets, but gold recovered first. It typically performs well in a financial crisis, but it went down at first in the last one."



➤ The depression of the 1930s stripped the American population of its cash and savings, as well as its ability to make any money to use for food and staples.

10 REASONS TO KEEP CASH IN YOUR BUGOUT BAG



- 1** ATM machines are inaccessible in a disaster.
- 2** Stores won't be able to access their credit companies to process transactions.
- 3** Your money is always ready to go, as your BOB should be.
- 4** People always take cash.
- 5** Money can be broken down into various useful denominations.
- 6** Services can be paid for immediately.
- 7** You can offer bribes in tight situations (roadblocks, guards, etc.).
- 8** Pay phones and vending machines accept cash.
- 9** Credit cards might be useless.
- 10** Purchases can't be tracked electronically.



Precious metals have a fairly strong record against hyperinflation. In the financial crisis of 2008, gold prices dropped just like all other assets, including stocks, mutual funds and the dollar. Gold, however, rebounded much faster than other items of value and actually ended the year with a 5 percent gain.

NOT-SO-PRECIOUS JEWELS

When local communities are cut off from all forms of government help and people must work together to survive, assets such as stocks and currency will only be worth the paper on which they're printed. Even precious metals such as gold and silver might be practically worthless—despite what some people believe—because gold only has monetary value when it is backed by governments (or the hope and faith that those governments will return). If there is no government, gold is reduced to its usefulness outside of its monetary value (for example, you could make bullets out of it).

The problem, according to Andrew Feinberg, author of *How to Be a Smarter Investor*, is that "gold cannot be easily converted to liquid resources that people trust."

This means it is far more difficult to trade with gold, especially because people are not really used to dealing with it on a day-to-day basis. Do you know what a real piece of gold looks or feels like?

› Diamonds have been widely used as a currency for hundreds of years and will likely surface again when a form of payment is needed.



› Without ever-present cash, people might revert to using gold as a form of payment, although it is unwieldy to use and can't be trusted to be genuine.



“VALUE IS DETERMINED NOT JUST BY WHAT ONE PERSON IS WILLING TO PAY, BUT ALSO BY WHAT THE OTHER PERSON IS WILLING TO ACCEPT AS PAYMENT.”

Are you willing to trade your last box of vegetables for a piece of metal that might not have any real-world value?

The same holds true for diamonds and precious stones. Do you know the difference between a real diamond and a cubic zirconia?

IN THE SHORT RUN

Your wife's jewelry, a safe full of precious metals, a file cabinet full of stocks and bonds have a perceived value, but in reality—in the reality of an end-of-the-world crisis—they're nothing more than rocks from the ground and paper from a tree. They might be pretty to look at, but they won't put food on the table or bullets in your rifle if the perception of their value has changed drastically, which it likely will after a world-changing catastrophe.

People will mutually benefit when economies revert to using simpler forms of currency: food, services, gasoline, water, weapons, tools, etc. These are items people need and can directly use.

However, in this new world without paper currency, food, water, medicine and other crucial items would be much more valuable but typically not traded, because owners will need the supplies for themselves.

Instead, consider stockpiling small, nonperishable items that would be beneficial but not absolutely necessary (e.g., toothbrushes, sunscreen and razor blades). It's also important to stock up on alcohol, gasoline and consumable items that will be widely used by a scavenging population. Have salt and sugar on hand; these two items last indefinitely, and everyone needs them.

THE REBOOT

If the government comes back online or another government rises in its place, odds are really good that life will revert to the old ways and the previous forms of currency. Precious metals and rare gems will, once

again, be the primary forms of currency. Anyone with these items is likely to be in a better situation under a new regime, so it's still a good idea to keep gold and silver on your list of survival items.

More than paper currency, gold would eventually provide some wealth and bargaining power if a new government does rise to power (and one always does), because governments need a source of currency. Precious metals are a fast way to establish a new system.

Despite the short-term crisis, economies will always prevail, as long as there are people with a supply and people with a demand. How that supply and demand comes to balance and reconcile itself might manifest in hundreds of different ways. Value is determined not just by what one person is willing to pay, but also by what the other person is willing to accept as payment. **ASG**

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HYBRID SKILLS

BLEND PRIMITIVE AND MODERN TOOLS AND TECHNIQUES TO STAY ON THE CUTTING EDGE.

BY DUDE MCLEAN

As a retired U.S. Marine, a member of team Dirttime (www.DirtTime.com) and CERT team member for the city of Los Angeles, I've been involved in survival skills for more than 50 years. I've learned to discard the things that are impractical. I have spent a great amount of time learning survival skills and honing those skills. I firmly believe you have to round out your skill set or pay the ultimate price.

The skill set includes the modern tools we have at our fingertips. Yes, these can add up on the dollar side of the margin (although you can find used tools cheaply). You will also find some are just not worth it and, in reality, are mostly hype. But those that do work can be lifesavers and add to your confidence level.

In my opinion, rounding out your skill set should include the "primitive" skills. I regard primitive skills as the foundation upon which you build with any modern skills. Remember, if the modern tools fail, you have the primitive skill set to fall back on.

PRIME PRIMITIVE SKILLS

Making fire with friction can be a life-saving skill. Learn how to make fire with a bow and drill, and then follow up by learning the hand drill. The bow and drill will take a while to learn: what wood to use, how to prepare the wood, etc. The best way to learn is with an instructor who can show you in person. Some people can get it in a day; others will take a week (or longer), working on it every day. Once you get it, do not

let it rest. Make a fire once a week to keep your hand and head in the game. If you let it go too long, you will lose some of the nuances.

The hand drill is a different critter and is much harder to learn. It will take devotion to learn the skill, but you can do it. I suggest you become as expert as you can with at least one of these fire-making methods.

Learn how to make fire with flint and steel, as well. It's not as hard, but even fire-starting with the lowly match takes practice.

In addition to the more primitive skills of fire-starting, it's important to learn the various tinders and how to build a fire lay. The ferro rod is seen as an easy way to make fire, but this simple device seems not all that easy for those who have not practiced a bit.

All these methods take time and practice. Apply yourself, and you should master all the methods to make fire. Again, if you can find an instructor to teach you, your process will be far easier. There are some good videos on the internet to guide you in the right direction.

Making fire one time is not enough. One has to make fire several times—maybe 100 times or more—before you own the skill. After that, you have to keep up the practice at least once a week. (My favorite way of making fire is using a ferro rod and/or Bic lighter.)

CLASSIC TOOLS AND TRADES

You can, and should, master the use of many other tools. For starters, a wood chisel and a hand auger (especially one you can fit a handle onto as needed) are worth considering. These

allow you to both shape and make holes in wood. This means you can build shelters and other tools. Obviously, a saw is useful, as well.

With these few tools, you can make furniture, enabling you to live a bit more comfy in the bush, as well as weapons for hunting and personal defense.

Primitive blacksmithing is a craft that survival-minded people should seriously consider learning.

My friend, Jason Hawk, is a primitive blacksmith—and a master at it. He's shown us how to take the trash of this world (tin cans, discarded iron and other metals) and craft many useful items from it.

A tin can will yield arrowheads, for example, and other metals will yield spearheads, knives and other tools. They may not be pretty, but they work.

I have witnessed Jason making items by heating and pounding the scrap metal into a tool—no hammer, just a rock! Again, maybe not pretty, but workable.

Jason has a series available at www.PaladinPress.com called *Making Do: The Poor Man's Forge*.

Each DVD in the set is well worth the money. And remember that if you learn to make even the most basic tools by pounding hot steel, in dire times, you could barter your skills or make trade items to sustain yourself.

Another useful tool is a good machete. They are easy to get, and they are cheap to acquire. They do not run out of ammo. In fact, I suggest stocking up on several.

FORAGING AND TRAPPING

Identifying wild edible plants can help fill your larder. Learning about wild edibles is an ongoing education and can continue as long as you live. It is a great feeling to be in the bush and just reach down and grab a few edibles as you walk along. Wild plants offer many opportunities to fill you up or round out a meal. This skill takes a lot of time to learn but is well worth the effort.

Learning how to trap is another important skill set. Keep in mind that the little critters add up and are generally easier to harvest than a big animal.

Snares are an effective way to trap. The good, old rat trap carries easily in your backpack and can catch rabbits, squirrels, birds and snakes.

I drill at least three holes in the base of my rat traps. I tie down the trap with cordage or wire so the animal cannot drag it off into the bushes.

Practice where you can, but be aware of game laws. All traps and fishing nets are passive and work 24/7. And traps can be used over and over. On the other hand, firearms can run dry of ammunition. Keep that in mind during your survival planning.

PUTTING IT ALL TOGETHER

The combination of primitive and modern tools and skills offers more “bang” for your survival and for you to thrive. Now is the time to grab some of those non-power tools that can improve life in a worst-case survival situation. **ASG**

1 Author McLean (right) gets a lesson on the finer points of primitive arrow construction from anthropologist Paul Campbell.



2 McLean demonstrates how water is boiled without metal. After hollowing out a mature yucca stalk and filling it with water, he adds hot rocks, using just-made willow tongs.



3 The author and Alan Halcon get the hollow yucca stalk ready for primitive water purification.



4 McLean recommends an array of useful off-the-grid living gear.



BEWARE OF KNOCKOFFS

A SHORT LESSON TO LIVE BY AND TO BUY BY



At a trade show, I met an urban man who was enthusiastic about learning survival skills. He was watching me conduct a demo on how to make a fire using a magnesium fire starter. He was amazed by how quickly I could fire up a piece of paper with ease and precision.

"Here, try it," I offered. He demurred and told me that he'd never succeeded with this method, although he'd tried many times.

I asked him if he'd ever tried using the exact brand of fire starter I was using for the demo. He didn't think so, but he did tell me that he'd bought one that looked just like mine from a local hardware store.

I looked into his eyes and said to him with certainty and sincerity, "I don't think it's because you could not master this skill. I think you were using a bad quality fire starter."

WHAT'S THE DIFF?

I proceeded to explain how there is a huge difference in spark production and aiming precision with the original fire starter versus the cheap knockoffs.

I encouraged the man to give it a try with my fire starter. With some trepidation, he reluctantly took the starter and knife from

my hand. He worked the starter methodically under my guidance and instruction. He took a deep breath and struck the starter with an old, worn-out Swiss Army blade. A strong spark flashed down onto the small pile of magnesium shavings and ignited into a burst of flame, burning the paper beneath.

The man jumped for joy, because he'd finally made a fire. He shook his head in disbelief, wondering about all the time he'd doubted himself and his abilities. His lack of success wasn't due to his lack of skill but instead, to his ineffective fire starter.

At that moment, I could see in his eyes that his enthusiasm for learning survival skills was reignited. He realized he could become as skillful as the experts he admired.

GO FOR DOAN

The original magnesium fire started was invented by Sol Levenson of the Doan Company in 1973 (www.DoanFirestarter.com), and the same tool is still widely available online. Since the expiration of the patent, there have been many knockoffs; most of these inexpensive lookalikes are often inferior and not recommended as reliable survival tools. If you paid only \$2 to \$3 for a fire starter, you've probably been taken for a ride. —Urban Nature Girl Helen



◀ The Doan magnesium fire starter

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**WHEN THE CHIPS ARE DOWN BUT
THERE'S WATER AROUND, HERE'S
HOW TO LAND SUPPER.**

STORY BY LEN MCDOUGALL

911 FISHING GUIDE



“FIND A FRESHWATER SOURCE ON YOUR PLANNED OR UNPLANNED JOURNEY, AND YOU’LL FIND ENOUGH FOOD TO SEE YOU THROUGH.”

Be warned: This is not an article about tying a perfect fly that’ll entice a prized rainbow trout that you’ll snap photos of and place on Facebook. Rather, this is about your being stranded in the back of beyond. You need to eat before your body shuts down as things go from bad to really worse in a matter of hours.

Keep your wits about you, and understand this: If you’re near a permanent source of water, you certainly won’t go hungry. Almost every aquatic environment harbors edible fish, along with an assortment of other scrumptious critters. All you need to know is how to catch what you need to survive.

TAKE A POLE POSITION

With some found and modified material, it’s easy to make your own makeshift fishing pole. A pole allows an angler to reach out from a bank without casting a shadow. One of nature’s poles will enhance the feel when a fish takes the bait, allowing you to set the hook more surely. A pole bends like a spring, denying a fish the solid yank it needs to break your line and tiring it out at the same time.

A fishing pole can be constructed from any long, relatively straight sapling found growing along the banks of every body of water. For fish up to 8 inches long, candidates are about $\frac{3}{4}$ inch in diameter at the base, tapering to $\frac{1}{4}$ inch at the opposite end. For bigger fish, increase the diameter.

Tie a 10-foot length of fishing line around the narrow end of the pole, 2 inches inward, using a slipknot noose, anchored with timber-hitch choker knots.

LINE ‘EM UP

As far as survival fishing is concerned,

“unfair” in the line diameter category doesn’t exist. A survival fisherman uses fishing line that will not break. Ten- or even 20-pound test isn’t too much (the latter can also double as a snare line).

SUITABLE HOOKS

Long-shank hooks, which feature long, straight shanks that extend from hook to eyelet, are best. Long-shank hooks can catch everything but are easier to extricate than short-shank trout hooks.

Triple hooks—also called treble hooks—are often found on lures. Poachers mold a lead weight around a hook’s shank and then drag it through the water until it encounters a fish. Then, they give the line a hard yank, driving the barbed hook home. This method of catching fish, known as “snagging,” is often illegal and should be reserved only for survival purposes.

Choosing the best size hook is resolved by carrying an assortment. A too-small hook catches larger fish better than a too-large hook catches smaller fish.

Keep in mind that fishing hooks can be dangerous. If one penetrates your skin past its barb, the least painful method of extricating it is to push it all the way through and then clip the shank in two with a wire-cutter. Never pull against its barb. Hooks can be safely carried in a bottle or small tin. If you want to streamline your hook carry, you can try folding the hook and barb portions between a short length of duct tape and then stuff them safely away in your pack.

No hooks? No problem. Fishhooks were around long before manufactured types were sold in bait shops. The easiest DIY hook is the straight hook you can fashion from a length of bone, wood, hard plastic or metal that is sharpened to a point at either end and has a barb or two notched into the

“WITH SOME FOUND AND MODIFIED MATERIAL, IT’S EASY TO MAKE YOUR OWN MAKESHIFT FISHING POLE.”

ends. A fishing line tied to the midsection, slightly off center, helps ensure that it up-ends in a fish’s gullet when pulled.

Alternately, manufacture conventional-style hooks from heavy steel staples. Staples with a crown width of ½ inch can be fashioned into hooks capable of catching fish that weigh up to 2 pounds.

NATURAL BAIT

Few fish will attack a naked hook. Earthworms dug from under moist leaves are traditional. Grasshoppers, bees and most insects work as bait, too. Caterpillars, millipedes and beetles generally have a bitter taste. In winter, freshwater clams migrate close to shorelines. Cut a clam into little strips and bait your hook. Most fish will find clam strips to be very enticing, because they tend to wiggle in the water as you jig and pull in the line. And, after you catch your first fish, you can cut it into chunks to use it as bait.

Whether you realize it or not, backpacks contain bait. Many fish have been caught on raisins and other tiny treats that are easy to pack along. Pieces of summer sausage have caught trophy-class pike. Soft candies, such as Twizzlers, have also been known to sucker fish into biting.

Steelhead anglers have landed nice catches on a few inches of brightly colored yarn tied to a hook. Other oddball backpack baits to consider include colored foam earplugs. Put one on a long-shank hook to catch surface-feeding bass. Bottom-feeders, such as catfish, will go for a piece of shoelace soaked in bacon grease. Other natural baits include bird feathers or fur tied onto a hook. Believe it or not, even a dandelion floated on the water can land you good eats.

MAKING A BOBBER

Sometimes, it’s preferable to have your fishing line suspended from a float or bobber. A bobber holds your baited hook and fishing line vertical, suspended from the bottom some distance from shore, instead of at an angle.



➤ *Above:* Here is an assortment of easily crafted fishing baits, every one of which has proven its surprising level of efficiency in the field.

➤ *Below, left:* Carrying fishing hooks is a dangerous proposition, but encasing them in cellophane tape makes them safer.

➤ *Below, right:* Manufactured fishing hooks weren’t always available, so people made their own.

This essential fishing component is available inexpensively at any department store, but a bobber is easy to make. The easiest is a pill bottle with a watertight top. The container, itself, can be a self-contained fishing kit you stow away in your pack. Wrap a heavy rubber band around the bottle and thread your line between the bottle and the rubber band so you can slide the bobber to the desired spot on your line.

Nature also provides the materials necessary to make a good bobber. Select a dry, dead stick, broken to a 6-inch length. Place a knife blade’s cutting edge across the stick’s diameter. Using a gentle, downward, rocking motion, split the stick halfway down its length and wedge the fishing line into the crack at the desired depth. You’re good to go.

There’s a lag time you should be aware of when fishing with a bobber. Your best bet is to keep the line as taut as possible. Don’t try to set the hook on the first nibble. Wait until the fish actually takes the bobber under water before driving your hook home.

ALL HANDS ON FISH

Using one’s hands to take a fish is, ironically, illegal in many places. Spawning fish that congregate seasonally in streams—suckers, trout and humpback salmon in spring; pike in early summer; brook trout, king and Coho salmon in the fall—are good targets for employing hand fishing, day or night.

Lay your open hand, flat and palm up, against the stream bottom. Then, slide it into likely hiding spots, such as under logs and undercut stream banks. Move slowly and smoothly to avoid disturbing sheltering fish.

When you feel a fish’s belly against your palm, close your hand hard around its body, driving your fingertips into its flesh. Don’t try to hold a slippery, flopping fish; immediately arc your hand toward the bank, tossing your catch far enough inland so that it can’t flop back into the water.



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If this method sounds simple, that's because it is simple; and it's also why hand fishing is outlawed in so many places. Hand fishing should only be considered an option under dire survival circumstances.

TRY A TRIGGER LINE

The trigger line—a cross between spring snare and fishing pole—automatically sets a hook when a fish grabs the bait. Once hooked, the fish remains at the end of the line, alive but unable to escape. In a survival dilemma, trigger lines catch and hold fish while you sleep, helping conserve energy and time.

Required materials for a single trigger line consist of one fishhook, a couple of split-shot sinkers, 6 to 8 feet of at least 10-pound test monofilament fishing line, a springy, green sapling and a stout stake chopped from dead wood. Because more sets equals more fish, the fishing kit that resides permanently in my own daypack contains a 50-yard spool of fishing line, two dozen assorted sinkers and 100 assorted fishhooks safely contained inside a pill bottle.

The stake acts as an anchor for the springy pole. An ideal candidate will be about 10 inches long by 2 inches in diameter. Sharpen the end that will be pushed into the ground and cut a sharply squared notch about 2 inches below the top end.



➤ *Above, left:* A fishing float, or "bobber," is extremely simple to manufacture from natural materials scoured from the forest floor.

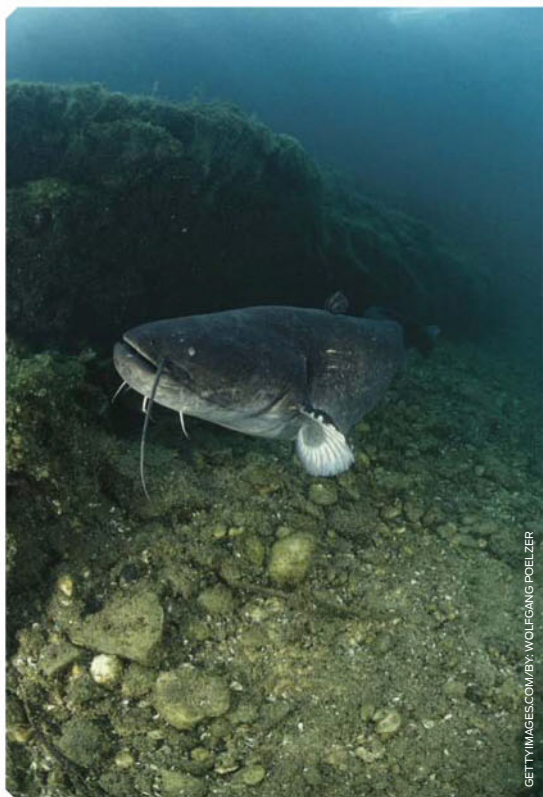


➤ *Above, right:* Few man-made lures can top live bait that's really just waiting to be hooked.

➤ *Right:* Trigger-line fishing is highly effective but also illegal. Only use this tactic under valid survival scenarios.

➤ *Below, left:* Catfish are anything but picky eaters.

➤ *Below, right:* Survival fishing is not the same as leisurely angling for largemouth bass from a canoe. But a strike is a strike, no matter what.



"BOTTOM-FEEDERS, SUCH AS CATFISH, WILL GO FOR A PIECE OF SHOELACE SOAKED IN BACON GREASE."



› This carp isn't a delicacy, but it is edible—and it's big. (Photo: PSE Archery)

Drive the stake 6 inches into the earth at the edge of a stream bank with the notched side pointing downstream or away from shore.

Rig the pole, which should be made from a springy, green willow or dogwood sapling (common on shorelines) about 3 feet long and with a base of about 1 inch. Tie on the line about 2 inches above the pole's narrow end with a fisherman's slipknot, attach hook and sinkers, then drive the butt end of the pole 6 inches into the ground about 2 feet inshore from the stake.

Toss the baited hook into the water and then bend the pole downward and wedge it into

the stake's notch. There it will remain, bent over, until a fish tugs against the baited hook, pulling the pole from its restraining notch and allowing it to spring forcefully upward. The energy of its release sets the fishhook's barb deep into the fish's mouth, and in nearly every case, the fish remains securely tethered to it until retrieved by a fisherman.

The pole should be under enough tension to securely set the hook when it springs free but not firmly enough to allow a fish to strip it clean of bait without also releasing the pole. As with all spring-type traps, this is the tricky part. Sharp, flat-sided notches make for a smoother release.

There you have it. With the aforementioned techniques in your survival arsenal, along with a well-prepped go bag or daypack, you should be more than ready to land supper when the chips are down. But again, be warned that the trigger line fishing technique, as well as some of the other tactics detailed here, are illegal to use in most places, except under actual survival conditions.

Here's hoping you'll never actually have to use these techniques. But if you do, you can rest easy knowing that the fish will be at a major disadvantage. **ASG**

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DOUBLE-DUTY STOWAWAY

HANDS ON THE THE BUGOUT-READY SAVAGE ARMS
MODEL 42 BREAK-ACTION TAKEDOWN .410/.22 LR

TEXT AND PHOTOS BY GARRETT LUCAS





When it comes to being prepared, there is a multitude of scenarios and varying levels of preparedness one must take into account to be ready at a moment's notice (or even with a weeklong heads-up).

There are occasions when people plan to bug in or bug out if some truly large-scale event occurs. During those events, the affected preppers will likely have access to all their gear; other preppers will have to decide what they want to use or take with them, in case they decide to leave their homesteads.

On other occasions, however, one might be on a fishing trip, during which the boat capsizes, or backpacking into a remote wilderness, only to end up getting lost during the journey. A person could also be in a bush plane or other vehicle and become stranded

◀ *Below, top left: For those not expecting head shots on squirrels, CCI's 36-grain, Mini-Mag hollow-point rounds are an excellent choice for small game. This five-shot spread measured just under an inch at 50 yards.*

in an isolated area for a good amount of time.

Although hunting isn't the plan for the trip, it would be nice to have something available as a last-ditch tool to help even out one's survival odds.

ENTER THE SAVAGE 42

Those are the situations for which the new Savage 42 Takedown was built. The Model 42 Takedown is a rifle/shotgun combination that can be broken down into two pieces for easy storage in its own carrying case. Alternatively, it can be stored in a pack. The calibers available for the Model 42 Takedown are either .22 LR or .22 WMR for the rifle and .410 for the shotgun—with a 3-inch chamber. There is a youth model available that has a shorter length of pull, but the rifle is chambered only in .22 LR.

The 42 Takedown is a break-open, single-shot design consisting of a rifle barrel on top and a shotgun barrel on the bottom. The single-shot designation applies to each specific barrel; the shooter can fire both the rifle and the shotgun without having to break open the firearm.

This can be done via the rotating hammers. If the user wants to fire the rifle, the longer hammer should be rotated into place. For the shotgun, the short hammer does the trick.

As would be expected with this type of rifle, it is a bit of a utilitarian setup. The stocks are synthetic, preventing issues with moisture or rain, and the sights are almost a target variety—all black with a blade post and a narrow opening in the rear sight. This arrangement helps the user make very precise shots (although the front sight is hard to pick up

◀ *Below, bottom left: Depressing the takedown button on the bottom of the forend and sliding the forend forward unlocks the two parts to allow for separation of the Model 42's two halves.*



“ASIDE FROM THE CLEVER TAKEDOWN DESIGN, THE MODEL 42 IS RUGGEDLY BUILT, ACCURATE AND OFFERS A LOT OF OPTIONS IN A SMALL PACKAGE.”

SPECIFICATIONS

Savage Arms Model 42

- › CALIBER: Combination .22 LR/.22 WMR and .410 shotshell
- › FINISH: Matte-blue
- › STOCK: Synthetic
- › TRIGGER PULL: 5 pounds, 10 ounces
- › BARREL LENGTH: 20 inches
- › OVERALL LENGTH: 35.75 inches
- › LENGTH OF PULL: 13.5 inches
- › WEIGHT: 4 pounds, 11 ounces
- › MSRP: \$480
- › URL: www.SavageArms.com

easily, even in the middle of the day).

Acquiring a proper sight picture earlier or later in the day might be a bit problematic. Had this been my rifle, my first step would have been to mark the front sight with a dab of high-visibility phosphorescent paint (or other material) to make the sight alignment easier.

That said, the Model 42 Takedown was an accurate shooter, as we'll discuss later.

TAKING IT DOWN


The biggest selling point of the Takedown model—and the one that makes it so appealing as an impromptu survival firearm—is its ability to come apart into two separate pieces. This ability makes the package more portable and more concealable, as well.

To break apart the Model 42, the user presses in on a button on the bottom side of the forend while simultaneously sliding the forend forward. With it out of the way, simply engage the breakdown lever as though you were about to load/unload the firearm and simply roll it out of its normal, hooked position. It's that simple. The two pieces are ready to be stored in the supplied carry case or any other pack the user selects.

◀ Below, top: The Model 42 Takedown is a simple, but effective, tool with its rugged and waterproof synthetic furniture, matte-blue finish and very accurate rifled barrel.



◀ Quick to take down and pack away, the Model 42 Takedown is very portable and can be carried in a compact, discreet case.



◀ Far left, top and bottom: The all-black rear sight has a very narrow slot in which to align the front sight. As a result, the shooter can make precise shots—and in a survival situation, each shot counts!

The carry case is a low-profile affair that would be hard for most folks to identify as a rifle case. It comes with an outer pocket for carrying various survival items. On the inside, there is a large pocket for storing the forward piece of the firearm. The other side of the internal compartment is lined with MOLLE loops with which the buttstock portion can be strapped to the case. Additionally, the MOLLE loops allow the attachment of other gear, such as pouches.

While heading afield for testing, I was able to store both the .22 LR and .410 rounds in waterproof Alosak pouches in the external pocket on the front of the case. Additionally, I found some room to include a mini-survival kit that is enclosed in a high-quality leather case from Hedgehog Leatherworks.

Finally, if you're hunting small game, it's a good idea to go ahead and pre-position

a small game and fish knife. My choice for that task was the excellent Spyderco Sprig. These extra items were attached via the internal MOLLE loops.

Other pouches would come in handy for carrying ammunition inside the case to help it stay dry. Also, specific tools are required

“THE BIGGEST SELLING POINT OF THE TAKEDOWN MODEL—AND THE ONE THAT MAKES IT SO APPEALING AS AN IMPROMPTU SURVIVAL FIREARM—IS ITS ABILITY TO COME APART INTO TWO SEPARATE PIECES.”



◀ The action on the Model 42 is a simple, break-open design, with the .22 barrel on top and the .410 barrel sitting at the bottom. Once the 42 has been unlocked, the forward half can be rolled down and then pulled up at an angle to unhook the front half from the rear portion of the firearm.

to adjust the sights, such as a 1/16-inch hex driver for elevation and a .190x.025-inch slotted, flat-head screwdriver to fit the screw and adjust for windage. Having a secure place to store those tools is vital to make those adjustments in the field.

WORKING THE SAVAGE

Out of the box, the Savage shot a good bit to the right with both the rifle and shotgun, so those sight tools were needed to get the firearm on point. By unloosening the rear sight screw, you can move the rear sight to the left or right to adjust for windage and then tighten down the rear screw again. It was a pretty quick process. Just remember that when adjusting sights, a little movement goes a long way.

The rear sight can be taken off and a small rail added for the use of a scope or a red dot. I like the idea of a small red dot to aid in aiming—especially in a 3X form factor—but I would keep the rear iron sight in the case with the Model 42 as a backup.

Testing the Model 42 was a bit unusual for me: Not only was I testing a rifle, I was also testing a shotgun. On top of that, while shooting the rifle for five-shot groups, the rifle had to be moved and opened to be loaded after every shot. This made maintaining a consistent shooting position and shot placement a challenge.

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I tried out three types/brands of .22 LR loads to see how the Savage Model 42 would handle them, and I felt that they were a decent representation of what different shooters prefer for hunting beyond simple bulk-pack plinking rounds.

Included in the testing were CCI's 36-grain Mini-Mag hollowpoints, Winchester's 40-grain Hyper-Velocity plated hollow-point rounds and Wolf Performance Ammunition's Match Extra 40-grain solids.

During the testing phase, I shot from the bench at 50 yards with all three loads. For me, the Mini-Mags consistently turned out the best groups—right at 1.5 inches. That's no great shakes, as far as accuracy from a rifle is concerned, but I'll honestly say I had a hard time picking up the front sight and positioning it correctly in relation to the 2-inch target downrange. I just couldn't break the 1.5-inch barrier.

A shooting buddy came out to the range during another session, and I let him try the Takedown. He shoots iron-sight matches and is a better shot with that type of setup.

He sat down to test the Savage. His first group with the Wolf Match Extra measured just 0.5 inch. (Needless to say, I'm not speaking to him at this point!) He then tried out the Mini-Mags. His best five-shot group with that load was just under 1 inch. Not bad at all.

The rifle portion of the testing proved that the rifle can outshoot the shooter, and it reinforces Savage Arms' reputation for producing highly accurate rifles. With a scope attached, the Model 42 would certainly hold its own at longer distances, but you have to consider the tradeoff in the extra weight, reliability and portability when dealing with a crisis scenario.

THE MIGHTY .410

While the .410 might not be the first choice when picking a hunting shotgun, its small size does lend itself well to being ultra-portable—especially in a takedown configuration—and easy to have on hand in case of an emergency. The break-open design also makes it extremely easy to load and use for folks who are not familiar with firearms.

The Model 42's shotgun barrel has a cylinder bore, so you're not going to see the tighter patterns you'd normally get with a full choke for taking ground game. However, this does open up the pattern a bit for birds.

We tested the shotgun with a variety of ammunition that included Federal's Game-Shok High Brass 3-inch loads in both #6 and #7½ shot, and we also included Fiocchi's



►An unexpected turn of events could force an individual into a situation they didn't expect. Having a survival firearm such as the Savage Model 42 Takedown can help even out the odds.

“WITH A SUGGESTED PRICE OF \$480, IT'S A SURE BET THE STREET PRICE WILL BE CLOSER TO \$400 ...”

chi's High-Velocity 3-inch #7½ shot. Of course, function was fine with all the rounds, but after running these loads through the cylinder-bore barrel, we were able to observe the limitations of the ammunition.

The #6 shot (a popular size for squirrels) from the Game-Shok loads provided a good pattern up to 15 yards, but because of the lack of a choke, it opened up a little too much past that distance to guarantee a good hit rate. You could take the shot at 20 to 25 yards, but the gaps in the pattern looked to offer a 50/50 chance of a hit on a squirrel or similarly sized game. It's not the fault of the ammunition; it is simply a combination of the limited number of pellets being launched from a cylinder-bore barrel.

Moving to the #7½ shot shells increased pellet density, with a satisfactory pattern out to 25 yards. Then, a few significant gaps showed up at 30 yards. The Fiocchi High-Velocity #7½ provided the densest pattern at the 30-yard mark.

Within a 30-inch circle, 215 pellets were still captured, and 27 of those were within 9 inches of the center. If you're taking a shot at something on the wing at 30 yards, there's a good probability of a hit—but whether it's enough to take your target down will be decided in the field.

STOWING AND GOING

The Model 42 Takedown is an excellent piece of gear for its particular niche. Besides being a great tool to have along when you're not particularly expecting to need a firearm, its single-shot design took me back to my younger days, when shot discipline was required (and I definitely need to get back to shooting rifles with iron sights again).

Aside from the clever takedown design, the Model 42 is ruggedly built, accurate and offers a lot of options in a small package. Whether it's in their truck, backpack, boat or ATV, a serious prepper will appreciate the value of a tool such as this for short-term incidents—especially while away from home and their main supplies.

With a suggested price of \$480, it's a sure bet the street price will be closer to \$400. That also makes it an attractive option for those on a budget or need the easy access and reliability the Model 42 Takedown offers. Either way, it's a working, multi-mission tool with a rather small footprint. It's bound to be there when you need it. **ASG**

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Pattern 41 Blades

Overall Length: 7 5/8", Blade Length: 3", Width: 1", Thickness: 1/8"

CAT.#	STEEL	FINISH	PRICE
J4198	1095	Satin	24.95
J419K	1095	Black Teflon	24.95
J4127	D2 Steel	Peened	32.95
J4128	D2 Steel	Satin	32.95
J4137	CPMS 30V	Peened	42.95
J4138	CPMS 30V	Satin	42.95
J4189	Damascus	Random	79.95

Pattern 42 Blades

Overall Length: 6 5/8", Blade Length: 2 5/8", Width: 7/8", Thickness: 1/8"

CAT.#	STEEL	FINISH	PRICE
J4298	1095	Satin	24.95
J429K	1095	Black Teflon	24.95
J4227	D2 Steel	Peened	32.95
J4228	D2 Steel	Satin	32.95
J4207	440C	Peened	32.95
J4208	440C	Satin	32.95
J4257	CPM154	Peened	39.95
J4258	CPM154	Satin	39.95
J4289	Damascus	Random	69.95

Pattern 44 Blades

Overall Length: 6 1/2", Blade Length: 2 1/2", Width: 1 1/8", Thickness: 1/8"

CAT.#	STEEL	FINISH	PRICE
J4498	1095	Satin	24.95
J449K	1095	Black Teflon	24.95
J4427	D2 Steel	Peened	29.95
J4428	D2 Steel	Satin	29.95
J4407	440C	Peened	29.95
J4408	440C	Satin	29.95

Pattern 45 Blades

Overall Length: 7 3/16", Blade Length: 3 1/4", Width: 1 1/16", Thickness: 1/8"

CAT.#	STEEL	FINISH	PRICE
J4598	1095	Satin	24.95
J459K	1095	Black Teflon	24.95
J4527	D2 Steel	Peened	32.95
J4528	D2 Steel	Satin	32.95
J4507	440C	Peened	32.95
J4508	440C	Satin	32.95
J4589	Damascus	Random	79.95



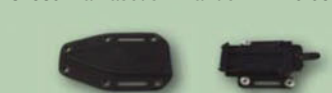
CAT.#	SHEATH	PRICE
KT410	Kydex	12.95
KT455	Kydex Belt Clip	9.95



CAT.#	SHEATH	PRICE
KT420	Kydex	12.95



CAT.#	SHEATH	PRICE
KT440	Kydex	12.95
KT455	Kydex Belt Clip	9.95



CAT.#	SHEATH	PRICE
KT450	Kydex	12.95
KT455	Kydex Belt Clip	9.95

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Pattern 31 Blades



Overall length 7 5/8", Blade Length 3", Blade Width 1 1/8", Blade Thickness 5/32". Bolster holes 1/8", Handle Holes 1/4", Thong Hole 1/4". Cryo Tempered.

CAT.#	STEEL	FINISH	HRC	PRICE
J3128	D2	Satin	59-61	31.95
J3148	154CM	Satin	58-59	35.95
J3198	1095	Satin	57-58	24.95
J319K	1095	Black	57-58	24.95
J3189	Damascus	Etched	58-60	99.95

Handles for Pattern 31



Contoured and textured handles for Pattern 31. Cut slightly oversized for proper fitting. More handle options are offered online.

Handles Smooth No Texture

CAT.#	COLOR	MATERIAL	PRICE
D3149	B.I./Cocobolo	Dymondwood	16.95
G3119	Black	G10	18.95
G3129	Red	G10	18.95

Handles Basket Weave Texture

CAT.#	COLOR	MATERIAL	PRICE
M3131	Red	Micarta	16.95
G3111	Black	G10	21.95
G3131	Orange	G10	21.95
G3151	Olive Drab	G10	21.95

Rivets/Pattern 31

Torx Screw for use with the G10 textured handles. Corby rivets for use with Dymondwood handles for flush surface.

CAT.#	TYPE	ALLOY	PRICE
B451	Torx	Brass	3.95
A461	Torx	Stainless	4.95
B660	Corby	Brass	3.49
A624	Corby	Stainless	3.49

Bolsters/Pattern 31

260 brass and 410 stainless, with matching pins. 3/16" for G10 contoured handles and 1/4" for Dymondwood handles.

CAT.#	THICK	ALLOY	PRICE
K311	3/16"	Brass	6.95
K316	3/16"	Stainless	6.95
K313	1/4"	Brass	6.95
K314	1/4"	Stainless	6.95

Pattern 36 Blades



Overall length 7 5/8", Blade Length 3", Blade Width 1", Blade Thickness 1/8". Bolster holes 1/8", Handle Holes 1/8", Thong Hole 1/4". Flat ground.

CAT.#	STEEL	FINISH	HRC	PRICE
J3628	D2	Satin	59-61	31.95
J3638	CPMS30V	Satin	59-61	41.95
J3608	440C	Satin	57-58	31.95
J3698	1095	Satin	57-58	24.95
J369K	1095	Black	57-58	24.95
J3689	Damascus	Etched	58-60	74.95

Handles for Pattern 36



Contoured and textured handles for Pattern 36. Cut slightly oversized for proper fitting. More handle options are offered online.

Handles Smooth No Texture

CAT.#	COLOR	MATERIAL	PRICE
D3653	B.I./Rosewood	Dymondwood	16.95
E3601	Birdseye Maple	Wood	24.95
E3672	Desert Ironwood	Wood	39.95

Handles Basket Weave Texture

CAT.#	COLOR	MATERIAL	PRICE
G3610	Black	G10	21.95
G3630	Orange	G10	21.95
G3650	Olive Drab	G10	21.95
G3660	Blue/Black	G10	21.95

Pins/Pattern 36

Handle pins available in brass and stainless steel. (Set of 6)

CAT.#	SIZE	ALLOY	PRICE
B826	1/8"	Brass	1.99
A846	1/8"	Stainless	1.99

Bolsters/Pattern 36

Bolsters are oversized, for proper fitting and include two matching pins. Dry fit bolsters and polish front edges before peening it to the blade.

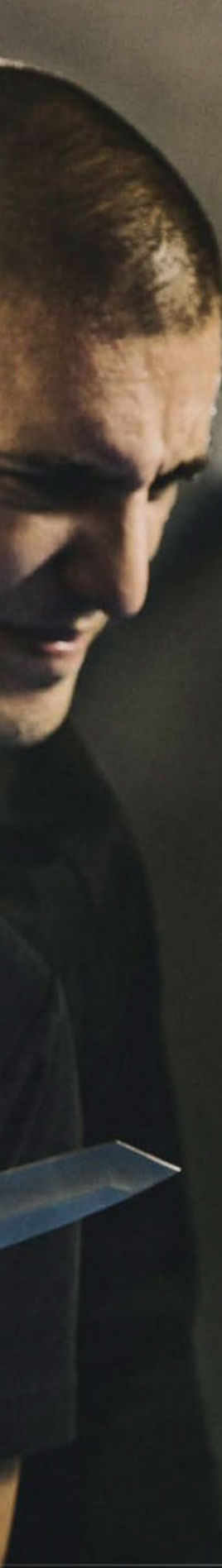
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**NOT PACKING? NO PROBLEM! PICK
AND TRAIN HEAVILY WITH ANY
ONE OF THE FOLLOWING
SELF-DEFENSE WEAPON
ALTERNATIVES.**

BY JIM COBB

LESS- LETHAL DEFENSE PLANS

“MOST ALTERCATIONS ARE OVER IN SECONDS, NOT MINUTES. CONSEQUENTLY, IT IS CRUCIAL TO DRILL AND PRACTICE WITH YOUR CHOSEN PERSONAL DEFENSE WEAPONS.”

When the discussion turns to utilizing some sort of armed defense, firearms are typically the first type of weapon mentioned. That's for good reason, given that a gun allows you to put holes in your target from a fair distance away. A firearm, backed by training and experience, is the optimal self-defense weapon in most scenarios.

However, there are several reasons someone might not choose to carry a handgun: They might lack the necessary permit or license; perhaps due to a past “indiscretion,” they aren't legally allowed to own or carry a firearm; or their employer might forbid the possession of a gun on their property. While you might personally disagree with such laws and rules, violating them could expose you to serious consequences.

Perhaps in the aftermath of an urban disaster, you don't want the noise associated with a firearm. You want to stay under the radar.

Fortunately, there are many options available for those who wish to explore non-firearm self-defense weapons for everyday carry (EDC).

PEPPER SPRAY

Pepper spray is a popular choice—because it works. Something to remember is that in a self-defense situation, your primary goal is, or should be, to get away from your attacker. Pepper spray allows you time to employ further defense measures or flee from the bad situation.

Pepper spray is sometimes called OC spray. “OC” stands for oleoresin capsicum,



◀ *Above and right:* Situational awareness and honing your abilities to react with necessary force will keep you steps ahead of would-be attackers. Stay tuned-in to your surroundings day or night.





◀ Taser devices are popular law enforcement tools today, but for legal reasons, it might not be an option for civilians. (Photo: ASGU)

addition, a fog is more likely to blow back at you if there's a strong breeze.

Some pepper spray products add a dye to the mix, marking your attacker for later identification. Not a bad idea.

ELECTRONIC WEAPONS

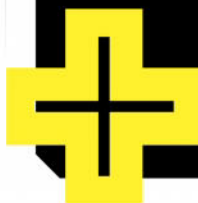
The terms, "stun gun" and "taser," are often used interchangeably, although they are two very distinct weapons. A stun gun has two metal prods between which a

SELF-DEFENSE AND THE LAW

While we talk a lot about end-of-the world scenarios, the fact is, we currently live in a society with laws that pertain to self-defense. Until or unless some event transpires that removes the rule of law, we are subject to following those statutes.

Every state differs regarding what may or may not be legally carried for a self-defense weapon. In some places, a license or permit is required—not just for a concealed firearm, but for any concealed weapon.

Violating those laws, even in defense of your life, could turn a bad situation into something much worse. Do yourself a favor: Do your homework. Know what the law says; even more importantly, know how case law has interpreted the applicable statutes.



a chemical or oil extracted from various peppers that becomes the active ingredient in pepper spray. When sprayed into the face, the eyes close immediately and begin tearing uncontrollably. Breathing can be difficult, and coughing is common. The skin burns, too, causing a fair amount of pain. These effects generally last for about 30 minutes. If you're not able to get away from your attacker with a 30-minute head start, you seriously need to rethink your defense planning.

When shopping for pepper spray, you'll notice that manufacturers rate their products in a couple of different ways. Most commonly, they'll state the percentage of OC in the spray, such as 10 percent.

Unfortunately, that information is all but meaningless, because the OC likely comprises the oils from many different types of peppers, each with varying degrees of "heat" and, therefore, effectiveness.

Another common rating is the Scoville Heat Unit (SHU). SHU is a measurement of perceived heat in peppers. A banana pepper, for example, runs around 100 SHUs. A haba­ñero is about 350,000 SHUs, and a Carolina Reaper is 1,500,000 SHUs.

Of course, when it comes to pepper spray, the hotter, the better. However, the SHU rating doesn't tell the whole story, because while the OC present in the spray might be incredibly hot, the manufacturer might have diluted the mixture to save money.

Probably the best measurement or rating to seek out is called CRC, which stands for "capsaicin and related capsaicinoids." This is a measurement of how much capsaicin is actually in the OC. The Environmental Protection Agency is involved in this, and it is about as close to regulated as you're going to find in the pepper spray industry. The minimum CRC measurement you will want is 1 percent.

Focus your search on pepper spray products that emit a stream, gel or foam, rather than a fog. A directed spray, such as a stream or gel produces, is far easier to aim. In



◀ Far left: A stun gun can allow you to keep your attacker off of you so you can make a break for safety.

◀ Left: Pepper spray, such as Kimber's PepperBlaster models shown, can be easily carried on a belt holster or in a purse. (Photo: Kimber America)



◀ Above: The Kershaw Thermite is a great option for a tactical folder.



▶ Right: The Steel Will Darkangel sports a Forprene molded handle that provides for excellent ergonomics. Also shown is Steel Will's 4.02-inch-bladed Bruiser folder.

current of electricity flows when the weapon is activated. When the user presses the stun gun against their assailant and turns the weapon on, the electricity incapacitates the target.

At least, that's the theory. A stun gun doesn't work as well through thick clothing. And if the assailant is under the influence of hard drugs, the stun gun's effects might be diminished.

Stun guns come in a wide range of sizes and styles, including ones disguised as common items such as cell phones and lipstick tubes. This ensures you'll be able to find one that meets your needs. Nevertheless, one thing to remember is that if you're close enough to use the stun gun effectively, your attacker is close enough to grab you and possibly wrestle the weapon away from you.

A taser device differs from a stun gun in that it fires two small hooks at the target. These hooks are attached to the taser by wires. The hooks embed into the skin of the target, and the user is able to send electricity through the wires and into the assailant.

If you want to see how effective a taser device can be, do an online search for taser training videos. Most police departments require their officers to be "tased" as part of their training. Some departments film this and post it online. The screams you hear are, indeed, real.

(By the way, TASER—the company name of the most popular taser device on the market today—is actually an acronym. It stands for Thomas A. Swift's Electronic Rifle. Tom Swift is a perennially popular character in young adult literature. The inventor of the TASER, Jack Cover, named the unit after his boyhood hero.)

IMPACT WEAPONS

People have been bonking each other over the head with rocks and sticks for millennia. In a self-defense encounter, there is no such thing as fighting "fair." Any advantage you can bring to the table will be welcome. An expandable baton can be a formidable weapon—provided you have received training in its proper use. While it is compact, it is still

"CHOOSING A SELF-DEFENSE WEAPON IS MERELY THE FIRST STEP IN A NEVER-ENDING PROCESS."



▶ The Steel Will Apostate fills the hand completely, offering excellent control over the blade.

“IN A SELF-DEFENSE ENCOUNTER, THERE IS NO SUCH THING AS FIGHTING FAIR. ANY ADVANTAGE YOU CAN BRING TO THE TABLE WILL BE WELCOME.”



› Above: A manually operated Tokushu keibo with its handy holster, alongside a discreet, keychain-style self-defense stick.

somewhat heavy, which is something to consider.

The slungshot is small and lightweight, yet it carries a substantial wallop. It is simply a weight attached to the end of a cord. It is swung so the weight strikes the attacker, not unlike a flail. Traditionally, the weight is a stone or large ball bearing wrapped in a monkey fist knot.

Originally, the slungshot was used by mariners, who would attach it to a mooring line and toss it to someone on the dock. Slungshots can be found in various sizes, many of them small enough to keep on a keychain in your pocket.

Another keychain weapon is the Kubotan. Originally developed by Takayuki Kubota in the 1960s, it found a home with police departments across the country. The Kubotan, as well as the various and sundry knockoffs, is used as both a striking weapon and a leveraging tool for joint locks. The weapon consists of a slim, short baton not much larger than a marker or thick pen. Often, it will have a key ring attached to one end.

KEEN EDGES

Using a knife for self-defense takes serious commitment. It isn't something to consider lightly. You need to give real thought about whether you'll be able to cut or stab someone. This is certainly a much messier option than the other weapons discussed.

Something to remember is that the decision to carry a weapon for defense must be made with total conviction that you'll use the weapon, should it become necessary. If you pull the weapon, you must do so with the full intention of using it.

Furthermore, defending yourself with a knife—at least doing so properly—takes quite a bit of training. While every weapon requires some amount of practice, using a blade effectively is far more complicated than the point-and-shoot pepper spray canister.

If you're still set on carrying a knife for defense, the first choice you'll have to make is whether you want to carry a fixed blade or folder. A folding knife can be easier to conceal, but deploying it is a two-stage process. First, you need to draw it from your pocket, belt or wherever you keep it. Then, you need to open it.

Granted, many of the tactical folders available today open lightning-fast. The Kershaw Thermite and the Steel Will Apos-tate are both great folders for this purpose.

The issue about folding knives is that few people balk at seeing them. If you're at work and someone needs to open a box, they won't think anything of you pulling out a folding knife and putting it to good use. If anything, they might comment on the length of the blade (if it is a larger model).

Fixed blades, on the other hand, can be intimidating to co-workers if you don't work in a profession in which they are commonly seen. If you decide to go that route, be sure you can keep it concealed from those who might question it.

The CRKT Synergist is a good, concealable option to consider. This 3.63-inch-bladed knife sports a slim profile so it can be carried discretely on a pack, clipped on your belt or bootstrapped.

One other consideration is blade length. The blade should be long enough to penetrate through jackets and clothing. If someone is bundled up in the middle of winter, there could be 3 inches of fabric to get through before the blade reaches skin. Carrying a full-sized sword probably isn't an option, of course. But, if you are practical, choose a blade that is at least 4 inches long.

Most altercations are over in seconds, not minutes. Consequently, it is crucial to drill and practice with your chosen personal defense weapons. You need to develop the muscle memory and reflexes so that when the time comes, you can act without hesitation and with confidence.

Choosing a self-defense weapon is merely the first step in a never-ending process. **ASG**



GET IN THE ZONE

LAY OFF THE PANIC BUTTON AND LEARN
HOW TO ASSESS THE THREE CRUCIAL
SURVIVAL ZONES.

STORY BY MICHAEL D'ANGONA



The sudden impact of realizing you are in a possible life-or-death survival situation can make your mind and body go into shock. Panic can set in

almost instantly. Your heart starts to race, your blood pressure begins to skyrocket, and sweat immediately saturates your clothing. Your brain doesn't function as it should under such a stressful situation.

Rational thoughts disappear, only to be replaced with illogical thinking and bad, impulsive decisions. This can turn your dire situation into something much, much worse.

Although it is natural for most people to react in such a way due to fear of the unknown, it can be corrected with a basic game plan that should be thought through well before any emergency situation occurs. This "pre-" preparation is not specific to any type of disaster or survival situation. In fact, it is general enough to be applied to nearly any urban or rural natural disaster, man-made threat or as a result of a person's own misfortune by having an accident or being in the wrong place at the wrong time.

The strategy to avoid panic and unnecessary risks is for you to assess your crucial three zones of survival. By doing so, you will formulate a plan, stay focused and find a way out of whatever situation that has you fighting for your very survival.

ZONE 1: PERSONAL SPACE

The first zone to assess is yourself and the gear you have with you. This should be done immediately after an emergency strikes.

First, take a few moments and calm yourself. You can't think properly if you're in panic mode. Stop moving, sit and relax. Examine yourself first for any noticeable injuries. This includes obvious injuries such as cuts, scrapes, bruises or bumps on your head, as well as less-obvious ones, such as sprained fingers, hands or swollen ankles. After a traumatic physical ordeal, your body's adrenalin and state of shock might still be present, masking these ailments. But once it wears off, the injuries should be very apparent and ready to treat. Do what you can to keep your wounds clean, and use pieces of your clothing as bandages and slings—or, in a worst-case scenario, a tourniquet.

Once your medical issues are taken care of, it's time to evaluate the possible uses of any items you have on your person. Even the most simple of items have their uses: Pens can be used as straws to sip clean water, where available. Shoelaces provide cordage for survival projects, such as a bow drill fire-starter, homemade bolas for hunting



***"IN EVERY SURVIVAL SITUATION,
YOUR PRIMARY TASK IS TO STAY CALM AND
AVOID PANIC."***



◀ Having basic emergency gear in your home, boat, vehicle and, most importantly, on your body is always a smart idea.

or even primitive snare traps used to catch small game.

Your eyeglass lenses can become solar fire-starters, and their metal frames can be shaped into fishing hooks. Shavings from your cotton socks make great tinder, and your cell-phone can give you a multitude of survival uses, including a battery to create fire. Its glass cover can be broken and used as a knife, and the metallic shell can help reflect sunlight to send a rescue signal.

Think outside the box as you take inventory of your available supplies. Focus on the four core categories of survival: fire, shelter, water and food—and how your personal items can contribute to obtaining one—or hopefully, all four. You might be pleasantly surprised how many uses you can create.

ZONE 2: SURROUNDINGS

The next zone to assess comprises your immediate surroundings. This includes the area where you will make your short-term home until you are rescued or when you decide to venture out on your own. Examine the area for possible natural hazards, including uneven ground, tripping hazards such as stumps or roots, or dead tree branches overhead that could fall on you during a rough storm. Second, notice if you have any water sources close by. Within a matter of days, you will be beyond thirsty and needing water desperately.

If long-term survival is necessary, easily accessible water must be within close proximity to your location. Lakes, rivers and small ponds would be obvious sources, but

“EXAMINE THE AREA FOR POSSIBLE NATURAL HAZARDS, INCLUDING UNEVEN GROUND, TRIPPING HAZARDS SUCH AS STUMPS OR ROOTS, OR DEAD TREE BRANCHES OVERHEAD ...”



◀ According to FEMA, most flood fatalities happen because people try to drive through deadly waters rather than avoid them.

◀ In the aftermath of an earthquake, avoid traveling through, on top of or under any unstable manmade structures. With just the slightest disturbance, they can come tumbling down on top of you.



natural springs bubbling up from the ground, small streams of water trickling down rocks or even large leaves able to catch rainwater are suitable secondary options.

Food sources should also be scouted within your immediate area. Do you notice any signs of wildlife? Birds, small game and fish in the nearby water bodies are all possible food sources. Look for tracks in the soil, trails created by thirsty animals heading to water, or bubbles and ripples on the water's surface for indications of fish or other aquatic animals.

After your initial search for possible food and water sources, it's time to focus on shelter and fire. Are there natural materials nearby to create even a primitive shelter to protect you from the elements? These would include natural rock formations, fallen trees, naturally concaved terrain and other "structures" that could be your starting point for a shelter. The next order of business is to hunt down sufficient amounts of leaves, bark, moss, etc. that could be used for insulation and crack-sealer to keep out the rain and allow you to stay dry and warm.

Finally, fire is a must, so firewood must be plentiful and easy to gather. Additionally, search for materials that would make great tinder, such as bird and squirrel nests, thick, dry grasses or cotton-like plants such as pussy willows.

This assessment of your local area can also be applied to urban survival, because your essential four core categories of survival always remain the same, no matter where you are. Nevertheless, in an urban survival scenario, the search for food might come in the form of raiding deserted stores or markets for leftover canned goods or other long-life foods that can keep you alive.

Contamination will be your number-one concern when searching for clean, fresh water in the city. Again, search for a bottled product or, if you have some everyday

› Above, left: Be on the alert for possible dangers around your campsite. Bees and biting ants can cause havoc if disturbed. Relocate before trouble starts!

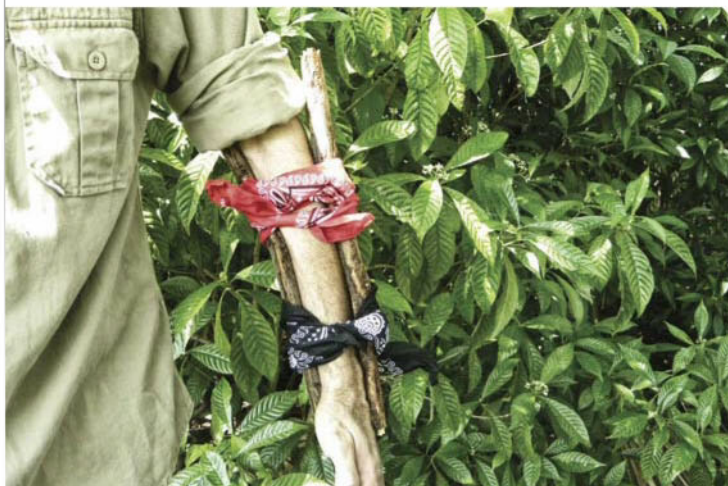
› Above, right: An accident on a deserted road can put you into survival mode in the blink of an eye. Remember the three zones of assessment for any unexpected emergency.

› Right: It might be necessary to create a temporary shelter from the harsh elements. Find a suitable area to set up camp and use whatever you find, either manmade or natural, to use for your shelter.

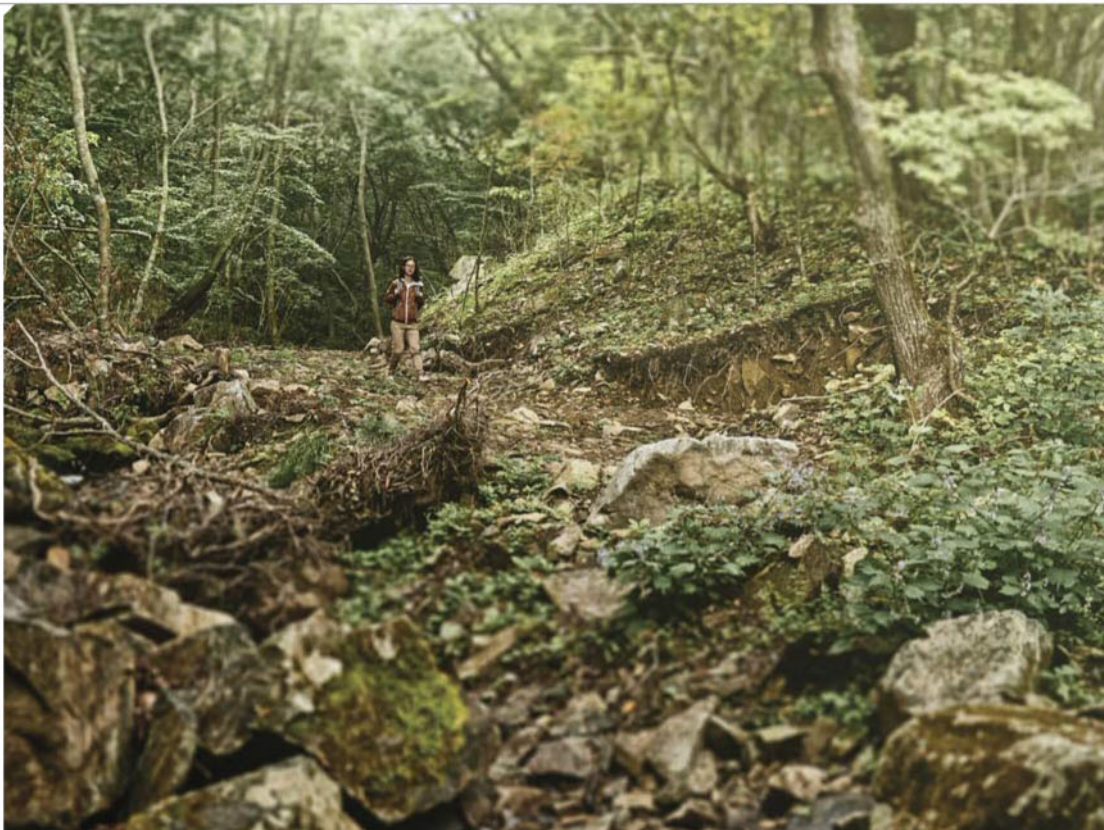


household items such as iodine or common bleach, you can purify water for drinking.

Shelter might be easier to find in an urban environment than out in the wilderness. Sheds, abandoned warehouses and parking garages can all give you some time to recoup and plan your next move. However, due to the concentration of people within the city, the odds of coming into contact with others could occur. This could be beneficial if those other people



› A properly placed makeshift splint will help ease the pain of an injury by making sure that the wounded area does not move.



◀ Be cautious when traversing rocky or uneven terrain. Choose the best course prior to starting your journey to safety.

are rescuers; but if the others happen to share your same desperate situation, you might be at risk for theft or physical confrontation.

ZONE 3: WHAT'S AHEAD

After you have determined that a rescue seems unlikely to happen, you might have to make the decision to leave your camp and essentially rescue yourself. This is where your final survival assessment comes into play.

This assessment involves you surveying the surrounding lands and using that information to plan your course. In a rural survival situation, you need to take into account severe brush that could obstruct your movement, lakes or rivers that could cut off your route, and mountainous or rocky terrain that might be difficult or impossible to climb and cross.

When in the city, you need to be cautious of unstable buildings, electrical poles or other concrete structures that might have been damaged during a natural disaster. Electrical wires that could still be live and are scattered across the ground are obstacles that must be avoided. The same applies for areas blocked by fences, gates or other physical obstacles.

The most obvious way to see far beyond your camp is to reach the highest place possible to view your surroundings. This could be a hilltop, tall tree, the roof of a building or an easily climbable antennae tower in an urban setting. Always climb with extreme caution, because falling will make a bad situation far worse in any environment. Once your journey begins, make periodic stops to re-survey your environment and make sure you stay on your intended path.

STAY CALM AND FOCUSED

In every survival situation, your primary task is to stay calm and avoid panic. Once you relax and come to terms with your circumstances, you can then make logical decisions and create both short- and long-term plans.

Always follow the three main survival assessments; they are universal for almost any emergency situation that could occur. Without them, you run the risk of haphazard thoughts and actions—ones that can lead you to a very unpleasant outcome. **ASG**

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* See The Blazing Hot story in the March 16 issue of ASG magazine



SEED SENSE

**A GARDENING PRIMER THAT WILL ENSURE A STOCKED
CELLAR WHEN THE WORLD GOES SIDeways**

STORY BY DANA BENNER



› The key to growing and maintaining a bountiful survival garden is knowing what crop types will grow best in your region.



“YOU CAN MAKE YOUR GARDEN AS LARGE AS YOU WISH, BUT KEEP IN MIND THAT BIGGER MEANS MORE WORK.”

Something is bound to happen in the near future. It could be a massive flood when the polar icecaps finally melt; it could be a mega EMP that sends us all back to the Stone Age; or— heaven forbid—there could be a global war of biblical proportions.

In any case, we need to be prepared. Hiding in underground bunkers while eating MREs and canned food is a stopgap, at best.

What will you do when the food runs out? What will you eat? How will you ensure that you and your loved ones survive?

It is not the time to start thinking about this after a major event occurs. Your preparation needs to begin right now. Learning how to provide your own food by growing it takes time.

WHY GROW YOUR OWN?

There are many long- and short-term benefits to growing your own food. The short term is evident, because it allows you to provide high-quality food—free of chemicals—to your family.

However, in a survival situation, once your immediate needs are met, you will need to

› Root cellars are making a comeback during these uncertain times, but they are only as good as your gardening ability.



› Above: Marked out rows with stakes and string (Photo: Dana Benner)

start thinking about food for the long haul. There is really no way to predict when any given situation will get better.

When something really massive happens that affects your world as you know it, you have to think that most infrastructure will be lost: no power, no grocery stores, no banks. And if there is money, it will be worthless.

All the money in the world will not feed you, but your garden will. It will also provide you with the means of obtaining other things you need. Everyone needs to eat, and thus, your plants, and the seeds they produce, will become a commodity of exchange—the next “money.”

› Right: The author's garden is a solid producer of heirloom veggies. The only thing missing is a fence to keep out deer and other hungry critters. (Photo: Dana Benner)



BEFORE BREAKING GROUND

Before you start your garden, you need to come up with a plan. How large will it be? What will you plant? What are your intentions for the food you grow?

I currently grow a great deal of the vegetables my family eats, and I do it in a garden that only measures about 20 feet square. To do this takes a game plan. Long before any seed goes into the ground, I know what is going where, how long it takes to grow, and how much work and time I need to put into it. I stick with this plan—and that is the ultimate key to success.

SIZE MATTERS

You can make your garden as large as you wish, but keep in mind that bigger means more work. In a survival situation, there will be other things that will take up your time as well. Will you be growing food only for your family? How about an extended family that could include friends? Do you plan to feed the whole neighborhood? If so, will you have help from the other people you intend to feed?

“THE DIFFERENCE BETWEEN A SURVIVAL GARDEN AND A CONVENTIONAL GARDEN IS THAT WITH THE LATTER, YOU HAVE THE ABILITY TO EXPERIMENT WITH DIFFERENT PLANTS.”

Whatever you decide, make sure to save room for plants you intend to use strictly for seed production.

WHAT TO PLANT

The difference between a survival garden and a conventional garden is that with the latter, you have the ability to experiment with different plants. If they fail, or if your family won't eat them, you really haven't lost anything.

A survival garden doesn't offer the option of experimentation or failure. Failure means somebody goes hungry. For that reason, deciding on the crops you want to grow is very important. If you do need to experiment, now is the time to do it. Find out what works best for your needs.

When considering which crops to plant, you have to look at three factors:

- ◀ Which plants will grow well in your area;
- ◀ What your family will eat; and
- ◀ If these crops store well.

If it doesn't grow well, or your family won't eat it, don't plant it.

I live in northern New England. Our growing season is relatively short, and some crops, such as melons, don't do really well, so I avoid them. I also tend to stay away from “designer” crops, preferring tried-and-true growers such as beans, peas, squash, pumpkins and tomatoes. Winter squashes and pumpkins store for a long time under cool, dry conditions. They can also be cut into slices and dried.

The seeds from all these plants can be dried and put away for later use, either as food, seeds for the next planting or for trade. Once the seeds are dried and properly stored, they will last a long time—in some cases, even for years.

Root crops, such as potatoes, turnips, onions, carrots and beets, will also last a long time if stored properly (see the sidebar on the facing page). The longer you keep these crops in the ground, the larger and sweeter they will get. I always wait until the first frost to harvest them.



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◀ Far left, top: Indoor worktop with bottles and jars containing seeds, seedpods and beans for planting

◀ Near left: Backyard mini-farming is more than a passing phase these days. Forward-thinking gardeners can even supplement their income by selling surplus produce at local farmers markets.

◀ Far left, bottom: Close-up of butternut squash seeds

SEED SENSE

For the healthiest plants, you need to start out with good seed. Good, healthy plants produce good seed for future use. These seeds are not only your supply for the next growing season, they are also what you can use for trade if the need arises.

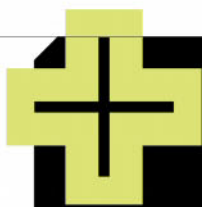
I always start with nontreated heirloom seeds. "Heirloom" plants are those that have not been altered in the last 50 years and whose seeds will continue to produce.

Make sure you carefully read the packages of the seeds you purchase. Just because it might be an heirloom variety of plant does not mean the seeds have not been chemically treated. Get your seeds from a reliable dealer, such as Botanical Interests or Johnny's Selected Seeds (see the source box on page 62 for contact information). These seeds might cost a little more than the seeds you will find at your local discount store, but you will only have to buy them once. After that, you should be able to save the seeds from the fruit these plants produce.

SEED STORAGE

I keep the seeds from every plant I grow; doing so is relatively easy: I spread the seeds onto a piece of newspaper and allow them to dry in the sun. Once thoroughly dry (this is very important, because moist seeds will rot during storage), I put them in sealable bags or plastic containers with a lid that forms a tight seal. Be sure to date and label each container/bag. Store the saved seeds in a cool, dry location.

Keep in mind that while some seeds, such as beans, peas and corn, can be kept almost indefinitely, others cannot. Squash,



LONG-TERM FOOD STORAGE

All the work you put into your garden will be worthless unless you can store the crops you produce. Freezing is out of the question, because you are not likely to have power.

So, what is the alternative? To answer that question, I looked back to what my Native American ancestors and the early pioneers did long before there were such things as freezers.

DRYING FRUITS AND VEGETABLES

Here's your set-it-and-forget-it solution to stuffing the pantry: Drying is probably the easiest way to preserve vegetables. Crops such as winter squash, pumpkins, apples, pears, grapes, cranberries, blueberries, etc. can be dried and easily stored in airtight containers or zip-top bags. This is a long process, but it is worth the time it takes. Winter squash and pumpkins will also keep for a long time if their hard outer shells are not compromised.

CONTAINERS

Root cellars were very popular in the past, and they still have their place. However, I have adapted this idea to my own needs. I use large plastic storage boxes as mini-root cellars.

I fill them with clean sawdust or sand and use them to store my root crops (potatoes, beets, carrots, turnips). The sand/sawdust keeps the crops dry, and the lid of the box keeps out moisture. The produce stays good for months when stored in a cool, dry location.

CANNING AND PICKLING

People have been canning and pickling food for centuries. In our modern world, this seems to have become a lost art. It is one that needs to be revived for survival needs. Both methods preserve food for extremely long periods of time and could be just the thing to see you through. There are many ways to can and pickle food, and fortunately, there are many sources out there to show you how to do it.

◀ Below, left: Green beans in a pressure cooker ready to be processed

◀ Below, right: Drying fruits and veggies can dramatically increase your haul's shelf life.



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SOURCES

› BOTANICAL INTERESTS

(877) 821-4340

WWW.BOTANICALINTERESTS.COM

› JOHNNY'S SELECTED SEEDS

(877) 564-6697

WWW.JOHHNNYSEEDS.COM



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***“HIDING IN UNDERGROUND BUNKERS
WHILE EATING MREs AND CANNED FOOD IS A
STOPGAP, AT BEST.”***



GETTY IMAGES.COM BY WEST INDIG



GETTY IMAGES.COM BY MARTIN FOLE

pumpkin and tomato seeds are only good for a couple of years.

There are two rules when saving seeds: First, don't rush things. The very first mistake I made was premature seed harvesting. For eating purposes, the smaller, younger fruit are the best, but for seed production, you need to wait. The seeds of the young fruit are not worth saving, because they are not mature and will not germinate.

So, leave a few squash and pumpkins on the plants and allow them to grow. It is those huge squashes that produce the most fertile seeds. With beans and peas, allow some to mature on the plant. Seeds are ready to harvest when the pods turn big, brown and hard.

Second, let seeds dry thoroughly, as I have already mentioned. Moisture is your enemy. All seeds need to be dried—even beans and peas, which appear to be dry. If the seeds are not dry, they will rot in storage.

I dry my seeds by laying them on a sheet of newspaper. As the mess dries, remove the seeds, put them on a clean sheet of newspaper and dry some more. The entire process may take up to a week, depending on the seeds and the temperature where you live.

Hopefully, the time will never come when you have to rely upon your garden as a means of survival. But if that time does come, a little preparation now will go a long way in your ability to provide for yourself and your family. **ASG**



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LET IT FERMENT!

GET A HANDLE ON ONE OF THE OLDEST AND EASIEST SURVIVAL FOOD PRESERVATION METHODS.

STORY AND PHOTOS BY PASCAL BAUDAR



Food preservation is probably one of the most important skills someone should learn for survival purposes. There are countless methods used to preserve food, ranging from simple ones, such as dehydrating (beef jerky, dried berries, etc.), freezing, smoking and salting, to more elaborate ones, such as high-pressure canning or curing meat to make ham, prosciutto, salami and other delicious preserves.

Fermentation is anything but elaborate. From a survival perspective, fermentation is an easy and ideal way to preserve food. You really don't need much to preserve the food—basically just salt, water and plants. Nature does the rest. (I even make my own salt from dehydrated seawater.)

SIMPLE IS SMART

Historically, fermentation is one of the earliest food preservation techniques, with records of it being done as far back as 6,000 B.C. It is found in many cultures around the world, such as Korean kimchi, sauerkraut in Europe, Russia and North America, chutneys in India, etc.

It's also super healthy for you; it's full of probiotics, which help maintain the microbial balance of the gastrointestinal tract. Some say it helps support the immune system, as well.

The basic principle of fermentation is



◀ The author's basic kimchi ingredients are cabbage and radish leaves, but there is no wrong way to make your own variety.

extremely simple: Bacteria are present on vegetables (and edible wild plants). Some of the bacteria that could be harmful don't like salt, but some of the good ones are salt tolerant (*Lactobacillus*). By mixing your vegetables with salt or placing them in brine, you help the good bacteria and inhibit the bad ones. The *Lactobacillus* bacteria feed on the starches and sugars in the vegetables or fruits and convert them into lactic acid, which lowers the pH of the overall product (making it more acidic) and prevents putrefaction. Essentially, it's similar to preserving in an acidic solution such as vinegar.

Fermentation is ideal for food preservation in the winter. Living in the hot climate of Southern California, I usually ferment my food for a few days (or weeks) and then place it in the refrigerator. In a colder climate, you can preserve your food in the basement for months. This is how people preserve cabbage and countless other vegetables from their gardens to enjoy during the colder months.

Because I love using foraged ingredients, let me share an easy and interesting recipe you can do at home with minimal equipment. It's also super tasty.



WILD FOOD KIMCHI

Kimchi is one of my favorite condiments. I live in an area that offers several Korean markets, where it's not unusual to have a whole aisle featuring various kimchis.

Kimchi is a traditional fermented dish made of various combinations of vegetables, such as cabbage, garlic, cucumber, onions, radishes and chilis. There are hundreds of variations, and some recipes include such ingredients as shrimp paste, fermented anchovies and fish sauce.

Kimchi has been made for more than 2,000 years. Like many preserved products, it was created to ensure a plentiful and nutritious food supply during the winter. Before modern refrigeration, kimchi was usually made in late fall and early winter, when the ingredients were available. It was stored in large pots that were often buried in the ground, where the temperature was optimal for long-term storage. Depending on the recipe, some kimchis could be fermented for weeks, months or even years.

The process is very similar to making sauerkraut; you just need to add salt, because the microorganisms necessary for fermentation (lactobacillus bacteria) are already present in the ingredients, themselves.

Of course, loving edible wild plants, I quickly became interested in making my own kimchi using locally foraged ingredients.

MAKE YOUR OWN BASIC WILD KIMCHI

This is the basic kimchi recipe I use. The ingredients and ratio change all the time, depending on the time of the year. During the winter, I use mostly curly dock, dandelion and watercress. In the spring, I use wild mustard and radish leaves.

You might have ramps and other delicious wild greens where you live. Experiment with what you have. Anything from the mustard family will work well. This recipe should yield a quart of kimchi, depending on the wild greens you use. Feel free to add or subtract if necessary so everything fits in a jar.

“HISTORICALLY, FERMENTATION IS ONE OF THE EARLIEST FOOD PRESERVATION TECHNIQUES, WITH RECORDS OF IT BEING DONE AS FAR BACK AS 6,000 B.C.”



◀ *Opposite page:*
A kimchi-making class in California is packed with over a dozen folks who know that natural food and food prep reign supreme over most store-bought eats.

◀ Some of the stone tools used to prepare kimchi are as old as the fermenting process, itself.

EQUIPMENT

- ◀ Cutting board and knife
- ◀ 1-quart jar with lid and band
- ◀ Mixing bowl
- ◀ Canning funnel (optional)
- ◀ Clean stone (used to keep the ingredients under the brine)

INGREDIENTS

- ◀ 3 cups (750 ml by volume) finely shredded wild greens (dandelion leaves, black mustard leaves, ramps, watercress or curly dock)
- ◀ 1½ cups (375 ml by volume) cabbage or variants (napa, bok choy or brussels sprouts)
- ◀ 5–8 garlic cloves
- ◀ 1 onion
- ◀ ¾ cup (200 ml by volume) chili powder (either mild or insanely hot, if you like it that way)
- ◀ 2 cups (475 ml) spring or bottled (not tap water, which contains chlorine)
- ◀ 1 tablespoon (15 g) sea salt
- ◀ 3 large cabbage leaves (large curly dock or mustard leaves would work, as well)

PROCEDURE

- 1** Clean all the wild food and vegetables you will be using.
- 2** Cut the cabbage into quarters and trim out the core. Slice each quarter into ¼-inch-wide ribbons (enough to fill 1 cup). Slice your wild edibles into thin ribbons, as well. You can mix different plants, such as dandelion, watercress and curly dock. You will need around 2½ to 3 cups.
- 3** Using a blender or a *molcajete* (stone grinder), make a rough paste with the garlic, onion and chili powder.
- 4** Wash your hands, scrubbing them with water and soap for at least 20 seconds. Then, mix all the ingredients together for a couple of minutes.
- 5** Clean your jar thoroughly. Pack it tightly with the mixed ingredients. The jar should be about three-quarters full. A canning funnel is helpful for filling the jar, but it's not a must.
- 6** Prepare a brine with the water and sea salt. Make sure the salt is dissolved. Pour into the jar, leaving 1 to 1½ inches of space.
- 7** With clean hands, fold the large cabbage leaves (or other large leaves) to fit the jar's mouth and push down. The idea is create a seal so your shredded ingredients stay under the surface of the brine. (This is important to avoid fermentation going bad.)
- 8** You will need to weigh down all the ingredients to make sure they stay under the brine. I usually use a stone I have thoroughly cleaned and pasteurized by boiling it for 15 minutes. Some people use other methods, such as a clean drinking glass that fits nicely inside the jar's mouth, to push the ingredients down. Whatever you use, the idea is to keep everything under the brine. Use a spoon to remove any small floating bits as much as possible. Leave approximately ½ inch of space and remove any

1 First, blend the ingredients using a stone grinder.

2 Thoroughly mix the ingredients in a clean bowl.

3 Use a canning funnel to place the kimchi into jars.

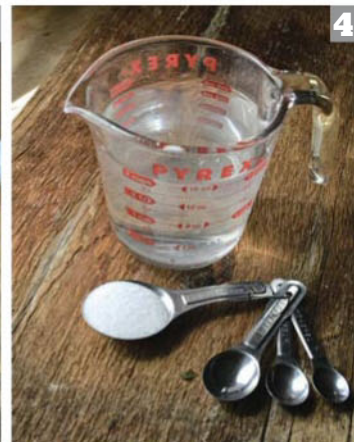
4 Measure out the proper amount of salt for the brine.

5 With clean hands, fold in the cabbage.

6 Use a stone to keep the ingredients fully submerged.

7 The author recommends storing jars on a clean plate.

8 After a few days of fermenting, you're ready to enjoy the fruits of your labor.



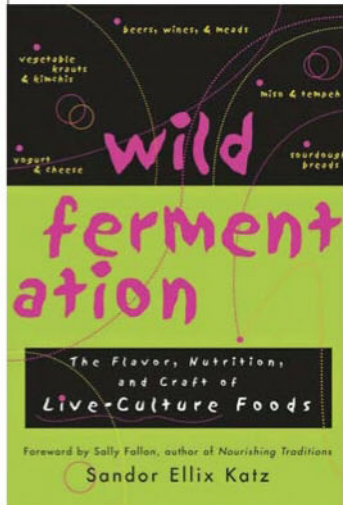
excess brine. I also like to push down the stone a few times and let any air bubbles in the liquid escape. You want to remove as many air pockets as possible and make sure the ingredients are saturated with brine.

9 Place the lid and band onto the canning jar, but make sure it isn't too tight. The idea is to prevent any potential bacteria or flies from getting into your kimchi, while at the same time allowing fermentation gases to escape. If you screw down the lid too tightly, your jar might explode because of the pressure inside, and you will end up with a big mess.

It's also a good idea to place the jar onto a plate. During the fermentation process, gas bubbles will form inside your ingredients, and the contents might expand a little, causing excess liquid to escape.

Once or twice a day, I like to remove the lid and push the stone down again (using clean fingers) to let gas bubbles inside the jar escape. You'll see that there are a lot of them!

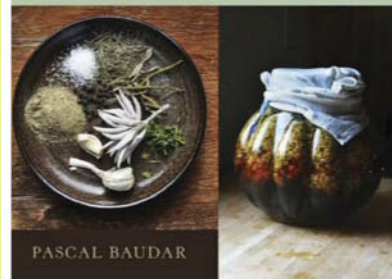
10 After four or five days, open the lid, smell and use a spoon to taste the brine. It should be pleasant, spicy and pungent. If it is to your liking, you can place the jar in the refrigerator, which will slow down the fermentation considerably. I like to eat my kimchi within three to four weeks.



The New Wildcrafted Cuisine

Exploring the Exotic Gastronomy of Local Terroir

With detailed recipes for ferments, infusions, spices, and other preparations



◀ Sandor Katz's book is recommended reading for those inspired by this article. Another great read is Pascal Baudar's *The New Wildcrafted Cuisine: Exploring Gastronomy of Local Terroir*.

MORE FERMENTING INFORMATION

There are numerous books about fermenting, but if you want to start experimenting with this preservation method, I strongly suggest you buy the book, *Wild Fermentation*, by Sandor Katz. Over the years, this book has become "the Bible" of the fermentation movement.

Some of the other food preservation methods—canning, curing or pickling—require a good understanding of food safety (getting sick is not an option in a survival situation) and also often require substantial equipment, such as mason jars, a pressure cooker canner and so on.

Fermentation is practical and very cost effective. With the aforementioned "Bible" and this primer article by your side, you'll be ready to start preserving quality, healthy food for the long haul in no time at all. **ASG**

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A person's arm is visible on the left, holding a TACSOL X-Ring 10/22 Takedown rifle. The rifle has a black barrel and a silver receiver. The background is a dense green forest. The text 'X-TREME .22' is in white, and 'SOLUTION' is in yellow.

X-TREME .22 SOLUTION

**PACKABLE AND PRECISE—TACSOL'S
X-RING 10/22 TAKEDOWN IS READY TO HIT
THE BACKCOUNTRY.**

STORY AND PHOTOS BY KEVIN ESTELA

If James Bond needed a .22LR, it is easy to imagine this is the one Q would hand him. While the average Joe may want to daydream about being as suave, skilled or supplied as 007, the reality for most of the population isn't as ideal as that fantasy.

That doesn't mean the modern-day survivor can't have a rifle that makes plinking, hunting and packing incredibly enjoyable. The Tactical Solutions X-Ring Takedown Rifle is the type of rifle that ruins it for all the others. After using this rifle, it is hard to go back to anything else that lacks the fine appointments of the X-Ring.

TacSol has taken the 10/22's proven design and made it even better with its

› TacSol's new X-Ring Takedown comes in several variants, including the Quicksand/Black and Ghille/Green versions shown below.

proprietary upgrades and unique receiver that give the rifle an unrivaled fit. The result is a rifle sporting enhanced accuracy, reliability and concealability.

RICH HISTORY

The 10/22 is, by far, the most popular .22 LR on the market today. By many accounts, it is the perfect rifle for the plinker, hunter and .22 marksman.

The 10/22 was the first rifle my father purchased for me more than 20 years ago. It is still part of my collection. The popularity of the rifle is due, in large part, to the ability to customize it with countless aftermarket accessories. It is sold in almost every gun store around the country, so it's impossible to calculate how many rounds have been sent downrange with the popular rifle.

Arguably, the 10/22 receiver is the perfect starting point for a custom rifle. But, just when the best and most popular rifle can't get any better, Tactical Solutions put its engineers to task to create the X-Ring Takedown [editor's note: Ruger came out with its 10/22 Takedown variant in 2012]. Whether the shooter elects open sights, miniature red dot or magnified optics, the rifle is certain to deliver incredible performance in a lightweight package.



SPECIFICATIONS

X-Ring 10/22 Takedown

- › ACTION: semiautomatic
- › CALIBER: .22 LR
- › CAPACITY: 10, 25
- › WEIGHT: 4.6 pounds
- › BARREL: 16.5 inches (1/2x28 threaded)
- › OAL: 34.75 inches
- › STOCK: Hogue Overmolded
- › FINISH: Matte black
- › SIGHTS: Fixed front
- › MSRP: \$1,205 (as tested)

› Far right, top: The TacSol trigger group features a crisp push-button safety and a trigger that breaks cleanly between 2.5 and 2.75 pounds.

› Near right: A Burris Fastfire II mini red dot allows for speedy targeting.

› Far right, bottom: The barrel of the X-Ring Takedown Rifle is threaded for screw-on suppressors, compensators or muzzle breaks.

› Below: An integral Picatinny rail sits atop the receiver of the rifle and makes the perfect platform for mounting optics and accessories.



**“THE RESULT IS A RIFLE
WITH SPORTING-ENHANCED
ACCURACY, RELIABILITY AND
CONCEALABILITY.”**

› The Tactical Solutions X-Ring 10/22 is also available with several different Vantage RS stocks with a variety of receiver finishes.



◀ The Tactical Solutions X-Ring Takedown Rifle comes with a padded gray case equipped with lashing straps and magazine pouches.



◀ Close-up of the TacSol X-Ring extended bolt handle and receiver





“THANKS TO THE LONGER BARREL, THE SOUND SIGNATURE OF THE RIFLE USING CCI STANDARD VELOCITY .22 AMMO WAS FAR LESS NOTICEABLE THAN A PISTOL USING THE SAME SUPPRESSOR.”

COOL CARRY

The Tactical Solutions X-Ring Takedown rifle comes with a very well-appointed, gray nylon carrying case with black webbing. The case is secured with two buckles and opens with a stiff pull of the outer flap. It is held together with hook-and-loop closures and has side flaps to prevent the contents from spilling out the sides. Once open, the inner compartment reveals a double magazine carrier for the 10-shot rotary magazines that both Ruger 10/22 and X-Ring rifles use. There is also a set of hook-and-loop straps to hold the stock and receiver assembly, as well as a partial pocket with additional straps to hold the forearm and barrel assembly.

During testing, a Blue Force Gear Dapper pouch with hook-and-loop backing was used to carry miscellaneous gear on the outside of the rifle bag, where an additional section of hook-and-loop fabric is sewn.

GUTS OF THE SYSTEM

What sets the Tactical Solutions X-Ring rifle apart from the competition is the unique design of the receiver and the precision trigger group. Rather than a separate Picatinny rail that attaches to the top of the receiver with four small screws, the X-Ring has an integral rail with a cutout down the center for use with iron sights. Often, with optional rail systems for

the 10/22, the use of iron sights is negated by the rail that blocks the line of sight.

The X-Ring rifle is also equipped with an oversized bolt handle. This handle makes it very easy to reach with the left hand (for right-handed shooters) from either over or under the receiver without having to give up the master grip. The safety on the X-Ring has a crisp push-on/-off setting and does not require much force to engage or disengage.

Dropping the magazine is exceptionally easy with the large paddle found directly under the trigger guard. When used with larger “banana” magazines, the shooter only has to move his middle or ring finger under the trigger guard and rip the magazine with the support hand.

As far as the trigger is concerned, TacSol advertises a trigger pull of 2.5 to 2.75 pounds. The sample provided broke perfectly around the low end of that average.

BARREL PARTICULARS

Until you hold the barrel and forend unit in your hand, you won't believe how light it is. Despite having the profile of a heavy bull barrel (the barrel has an outside diameter of .920 inch), the barrel of the X-Ring rifle is heavily fluted to reduce weight. It is also aluminum with a steel insert, providing the strength of steel with far less weight. The barrel is threaded 1/2x28 for common screw-on suppressors, muzzle brakes and compensators. A matching thread protector that fits flush to the barrel is included.

During testing, a Gemtech Outback II suppressor was used on the rifle, and the balance was virtually unaffected by the additional forward protrusion. Thanks to the longer barrel, the sound signature of the rifle using CCI Standard Velocity .22 ammo was far less noticeable than a pistol using the same suppressor.

The sights on the X-Ring allow the shooter to use them with a suppressor or barrel accessory attached. The front sight on my test rifle was a brilliant green that was easily picked up against dull-colored targets. Even in low-light conditions, the front sight gathered what light was available and provided an easily trackable and glowing bead.

HOGUE TAKEDOWN STOCK

The X-Ring rifle is available with a Vantage RS wood laminate stock, a Warden & Overmolded composite stock or a Hogue Overmold in various colors. Given the fact this rifle would eventually be carried in Alaska upon evaluation and potentially knocked around in pursuit of ptarmigan, the sample selected and sent for this review was the

RIFLE ACCURACY ADD-ONS

TACSOL'S EDGE SCOPE MOUNT

The Edge Scope Mount is truly unique. It is the only 1-inch, medium-height cantilever scope mount designed specifically for the 10/22 platform. The cantilever design puts the forward ring of the scope mount 1.75 inches forward of the receiver. This allows the optic to be placed in a position where a natural cheek weld and head position are easily acquired. The scope rings are positioned 3.75 inches apart from the inside of one ring to another and will accommodate most scopes with large windage and elevation turrets.

The solid, anodized aluminum construction mates perfectly with a full-length Picatinny rail, and there is absolutely no loss of zero with repeated mounting and removing utilizing two slotted hex bolts. For a takedown rifle, this no-loss-of-zero feature is logical, considering the rifle can be disassembled into smaller components and fit into a case more easily than a rifle receiver-and-scope combination that must remain mounted to prevent loss of zero.

The mount does not add considerable weight to the overall package and has no noticeable effect on the balance. The MSRP is \$99.

VORTEX OPTICS DIAMONDBACK 2-7X35 RIMFIRE SCOPE

Vortex Optics Diamondback 2-7x35 Rimfire scope is an ideal optic for a rimfire rifle, shotgun or muzzleloader. This scope is waterproof, has bright, multicoated lenses that provide a clear picture and sports easily adjustable turrets for positive and audible ¼-inch-click MOA adjustments. The turrets are capped, and the adjustment knobs can be twisted without tools. Its duplex reticle provides a straightforward and uncluttered field of view.

The Diamondback 2-7x35 packs a lot of value. The 2X setting is ideal for picking up movement and for short-distance target shooting/hunting. The magnification knob is slightly oversized for quick adjustment and easy manipulation when wearing gloves. If necessary, the user can crank the setting up to 7X for long range shots. Parallax is set for 50 yards, providing the same point of impact—despite slight changes in head placement, fit and sight through the optic.

The Diamondback 2-7x35 Rimfire is an excellent choice when paired with a quality rifle such as the Tactical Solutions X-Ring Takedown. Both will serve you well in the field or on the range to ensure your rounds hit your target.



“WHEN SHOOTING ACROSS THE BODY, THE WEIGHT OF THE RIFLE IS OVER THE SHOOTER’S TORSO, HIPS AND FEET AND IN LINE WITH THE CENTER OF GRAVITY.”



◀ Whether from a standing or prone position, the author had no problem nailing targets with all the types of CCI ammunition he tested.



› The variable-power Vortex scope mounted solidly to the 10/22's accessory rail with TacSol's cantilever-style Edge mount.

Vortex Optics Diamondback 2-7x35 Rimfire Scope

- V-Plex reticle (second focal plane)
- 1-inch, single-piece tube
- 35mm objective lens
- 3.1-inch eye relief
- 14.2-ounce weight
- 11.6-inch OAL

MSRP
\$259



Hogue Overmold. Its stock is compatible with bull-barreled 10/22 rifles and has the familiar semi-tacky feel Hogue grips are famous for. Even with wet hands, the stock was easy to maintain purchase of and shouldered quickly. The stock has standard swivel studs for use with a bipod or sling and has a standard length of pull that's perfect for shooters who prefer the feel of a standard rifle over one meant for compact carry.

RANGE RESULTS

During evaluation of the Tactical Solutions X-Ring rifle, literally thousands of rounds of ammunition were pumped through it. Today, .22 ammunition is nowhere near as inexpensive as it was 20 years ago, but it is still relatively cheap enough to buy hundreds of rounds for what a couple boxes of quality centerfire ammunition would cost. I set up various targets—paper targets at the 25-meter indoor range and polymer reactive targets at an open field—to wring out the rifle.

I was able to maintain “minute-of-squirrel” accuracy out to 25 meters using open sights from a standing position. The weight of the rifle is not found in the barrel but in the receiver. The balance, therefore, is much more to the rear of the rifle than the front. When shooting across the body, the weight of the rifle is over the shooter's torso, hips and feet and in line with the center of gravity. This makes balancing the rifle easy.

After iron-sight testing, I equipped the rifle with a Burris Fastfire II. This miniature red dot helped me acquire targets much faster than the standard front post rear notch sight alignment. The height of the red dot is slightly above the height of the receiver. Pointing the rifle is quick and natural, getting the shooter about 90 percent on target, and the red dot is there to pick up with both eyes open and allow the final 10 percent of accuracy. The Burris truly shined while shooting at reactive targets and at those rolled into the field of fire at the range.

I also tested a 2-7X Vortex Rimfire scope (see accompanying sidebar at the top of this page) while shooting prone on a CrossTac Precision Long-Range Shooting Mat. The 25-round magazines were easy to use while shooting from the standard prone position, and it was easy to cant the rifle slightly and use it in a low-prone position, as well. Single, ragged holes were made with five-shot groups using CCI Mini-Mag Round Nose, CCI Mini-Mag Hollow Point, CCI Velocitor, CCI Standard Velocity and CCI Green Tag ammo at 25 yards. Notably, the Tactical Solutions X-Ring rifle never experienced a failure to extract or a failure to feed during my testing.

PARTING SHOTS

The X-Ring rifle is light enough to shoulder in the field for quick shots and rapid follow-ups. It is also an ideal rifle for precision shot placement with the use of a magnified optic.

There are many accurate .22s available today. Some of those are known for being lightweight, collapsible or equipped with an attractive feature or two.

But there are few in the same category as the X-Ring Takedown 10/22. You'd be hard pressed to find one with the same features, inherent accuracy and shootability. **ASG**

SOURCES

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OFF-GRID ***ON A FULL*** ***CHARGE***

**JUST BECAUSE YOU'RE UNPLUGGED FROM CIVILIZATION
DOESN'T MEAN YOUR MODERN DEVICES HAVE TO BE.**

STORY AND PHOTOS BY JOHN D. MCCANN

PHOTO: GOALZERO

Nearly everyone carries some form of electronic device or equipment. If you carry items such as a smartphone, GPS, camera, flashlight or a tablet (either as part of your everyday carry [EDC], get-home bag, bugout bag, evacuation kit or wilderness pack), you should have some way to recharge those devices.

Some of your items might use batteries, which will also need to be recharged. The size and type of charger will depend on whether you are on a day trip or an extended excursion. The longer you are gone, the more reserve power you will require.

Following is a collection of various types of devices that should keep you and your devices running—no matter where you roam.

PORTABLE CHARGERS

For my EDC, I carry an Anker 2nd Gen Astro Mini 3,200 mAh Portable Charger (MSRP: \$49.99) that doubles as an external battery power bank. It is about the size of a lipstick,

➤ *Right:* The belt pouch holding the Anker Mini with a modified connector cord rides on the belt next to the author's iPhone.

➤ *Below, top:* The Anker 2nd Gen Astro Mini fits in the palm of your hand. You can see the Power IQ USB output and the micro input for charging on the left.

➤ *Below, middle:* The Anker 2nd Gen E4 External Battery has two USB outputs for charging two devices simultaneously.

➤ *Below, bottom:* The front of the GoalZero Guide 10 Plus recharger with the LED flashlight on. The Guide 10 fits in the palm of one's hand.



“WHEN CARRYING A SMALL PORTABLE CHARGER AS PART OF YOUR EDC, REMEMBER THAT YOU NEED A CONNECTOR CABLE IN ORDER TO ATTACH YOUR DEVICE TO THE CHARGER.”

measuring only 3.7 inches long by 0.9 inch in diameter and weighing just 3 ounces. It gives you a small charging station in the palm of your hand. You can recharge it using a USB cable from a standard USB wall charger or from a 12-volt adapter for your vehicle.

The Anker 2nd Gen Astro Mini (also called the Anker PowerCore 5000) has a Power IQ that detects your device, while its amp-adjustment technology intelligently identifies your device and delivers the fastest charge possible. It will add over a full charge to an iPhone and other smartphones and almost one full charge to a Galaxy S5.

When carrying a small, portable charger as part of your EDC, remember that you need a connector cable in order to attach your device to the charger. I like to carry my Anker 2nd Gen Astro Mini in a small belt pouch next to my phone.

I wanted a connector cord that was the same length as the Anker Mini, but there were none available. So, I purchased a short, 5-inch cable with a USB on one end and a lightning connector on the other for use with my iPhone. It was still way too long, so I modified it by folding the cable back on itself and then put heat-shrink tubing over it to hold it at the correct length. It fits nicely in the belt pouch with the Anker Mini and is always with me for charging my phone, if needed.

If the Anker 2nd Gen Astro Mini will not provide you with enough recharges, or you carry more than just a smartphone, Anker offers a larger device, which I carry in my evacuation kit. The 10.2-ounce Anker 2nd Generation E4 External Battery (MSRP: \$79.99) provides 1,3000 mAh and measures 5 7/8x2 1/2x3/4 inches. It provides an incredible amount of backup power to recharge various devices, yet it is small enough to carry in a bag.

It also has the Power IQ and two USB outputs for charging two devices at the same time. It can be charged using any USB charger. I have a standard USB cable and an Apple Lightning-to-USB cable. This allows me to also charge my iPhone and iPad if I include them

➤ The LED Luna light plugs into, and is powered by, any USB port.

in an evacuation. I also use it to charge my Olight S20R Baton flashlight.

The next item is a very handy device, because it offers various options. It is called the GoalZero Guide 10 Plus Recharger (MSRP: \$119.95). This product is a go-anywhere, rechargeable battery pack that keeps your handheld gear going strong. It charges both AA and AAA batteries from a USB port—or the sun—using any of the GoalZero solar panels. You can then directly charge a smartphone in one hour. The built-in LED flashlight runs for more than 150 hours per charge, providing you with an extra flashlight. Of course, it can also be used just to charge AA or AAA batteries for use in devices such as a handheld GPS, headlamp, flashlight or other gear that runs off batteries.

CHARGEABLE FLASHLIGHTS

There are also flashlights that can be recharged by a USB. Some are even combination units that comprise a flashlight on one end and a USB recharger on the other. The advantage of this type of flashlight is that it can be left plugged into a USB charger or USB port on a computer so it is ready when you need it. Most portable solar panels also have a 5-volt USB output for charging in the field.

DE's Powerbank 2,600 mAh Flashlight (MSRP: \$29.99) has bright, dim and strobe settings. What is unique about this light is that it is also a portable charger. The rear of the flashlight looks just like the Anker 2nd Gen Astro Mini and will charge smartphones and USB-powered devices. I prefer multifunctional items, and this is certainly a handy one.

I like the next USB flashlight because of its size: the UST Jolt Mini USB LED Light (MSRP: \$9.99). This product is a handy, rechargeable light you can take on the go. It recharges via any type of USB output device. A built-in clip attaches just about anywhere you need extra light (such as a key ring, zipper or backpack). It can be recharged more than 500 times and never needs batteries.

The UST Jolt Mini USB LED Light has a bright, 25-lumen LED with "steady on" and "flashing" modes that can be changed with an easy twist on/off switch. Simply plug and recharge this item in any USB port. A red LED charging indicator lets you know it is charging. It is water



resistant when securely closed and is available in black or orange.

The Olight S20R Baton (MSRP: \$69.95) is another flashlight that features an extremely bright light and makes a great EDC light. It's a very compact and powerful LED flashlight with an intelligent multifunction side switch. It is made from hard-anodized aircraft-grade aluminum and uses a top-of-the-line CREE XM-L2 LED that emits a retina-scorching 550 lumens. The Olight has four different power settings and a strobe mode to suit your specific needs. It uses rechargeable lithium-ion batteries and has a compact micro-USB charging dock, so you don't have to worry about bulky chargers or special cables.

With its dual-purpose magnetic tailcap, you can use the S20R as a hands-free work light and attach it securely to the included charging base. Whether you're changing a tire at night at the side of the road, defending yourself in a dark alleyway, outfitting your bugout bag or trekking through the woods, this is a very handy flashlight for all your needs.

Another excellent USB light is the GoalZero Luna Light (MSRP: \$9.99). I like this light because it uses LEDs and provides extra illumination in an emergency situation. It

➤ Below: The author charges his iPhone with the 12-volt USB adapter from the accessory outlet in his truck. (The phone is on to show it is real, but it is turned off when actually charging.)



➤ Above and below: An iPhone being charged from a vehicle battery using a 12-volt outlet and USB adapter. All parts to this charging system can be stashed easily in a glove box.



➤ A view of the rear zippered pouch on the Nomad 13 with both the Guide 10 Plus and Anker 2nd Gen E4 Charger. The array of outputs can be seen at the top left. The Sherpa 50 can also be carried in the zippered pouch.



“IF YOU ARE IN AN EXTENDED TYPE OF EMERGENCY OR BUGOUT SITUATION ... YOU MIGHT WANT TO CARRY A 12-VOLT OUTLET THAT HAS ALLIGATOR CLIPS.”



◀ Above: The Nomad 7 portable solar panel with the Guide 10 Plus Recharger

runs great off any of the Anker portable chargers, the Guide 10 Plus charger or any other USB output.

VEHICLE CHARGING

If you travel daily by personal vehicle, you will want a way to recharge your devices in the vehicle. Some of the newer-model vehicles have a USB power output, but most still do not. There are various types of 12-volt car chargers that plug into the vehicle's accessory outlet. They offer both single and double USB outputs. You simply plug them into your accessory outlet and then plug your USB



◀ Left: The author attaches the Nomad 13 solar panel to his pack with carabiners.

➤ Below: The front panel of the Sherpa 50 Recharger with its various inputs and outputs. At the top—without the AC inverter; bottom—with the AC inverter attached.



cable into them.

If you are in an extended type of emergency or bugout situation in which you might not be able to get to electrical power, or if the power is out, you might want to carry a 12-volt outlet that has alligator clips. This can be used if you are able to access the battery of an abandoned vehicle or another 12-volt battery. You simply connect the outlet directly to the battery and insert your 12-volt to USB adapter to charge your device.

PORTABLE SOLAR PANELS

You might need the ability to recharge for a longer period of time for a bugout or evacuation kit or an extended camping situation. If normal power is not available, portable solar might be an option.

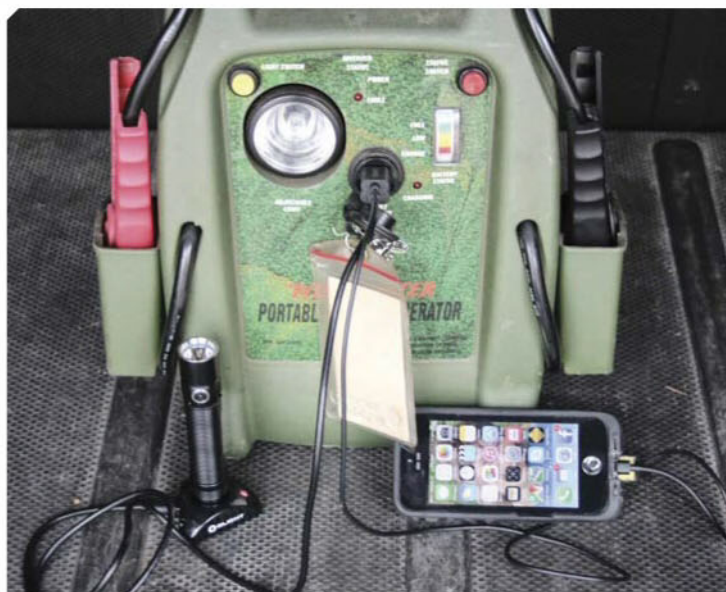
There are various portable solar panel manufacturers, and although some of these products work well, many only offer a 5-volt USB output. I have been using GoalZero products for many years and prefer them, because they provide various output voltages to include a 5- and 12-volt USB.

The GoalZero Guide 10 Plus Recharger, discussed earlier, is also offered as a solar kit that includes the Nomad 7 Foldable Solar Panel (MSRP: \$79.99). This item provides you with an ultra-compact, yet powerful, solar panel that enables you to charge your handheld devices directly from its USB and 12-volt DC charging ports.

This rugged, weather-resistant unit collects 7 watts of power from the sun. The Nomad 7 will directly charge most USB and 12-volt devices (but not tablets), and it can be chained together with other panels for increased collection. Ports provided are a 5-volt USB port, regulated 15-volt (for 12-volt requirements), regulated 6.5-volt mini solar port (used to charge the Guide 10 Plus Recharger) and an input for chaining additional panels in line with this one. The Nomad 7 Solar Panel type is monocrystalline.

I carry the Guide 10 Plus Solar Kit as part of the evacuation kit I stow in my vehicle. I include the Anker 2nd Gen E4 External Power Pack, because there is room in the zippered net pouch attached to the back of the Nomad 7 solar panel. Together, they provide me with a lot of recharging ability, as well as various other options, in a small package.

If you are interested in a larger system that provides more power, I recommend the GoalZero Sherpa 50 Solar Recharging Kit (MSRP: \$449.95). Although larger and heavier than the Guide 10 Plus kit, if you have the room, it can be a real asset.



◀ While camping, and using a dual USB adapter, the author charges both his iPhone and Olight S20R Baton flashlight in the back of his truck using the portable 12-volt power pack. He stores this power pack in his vehicle. (The phone is on to show it is real, but it is turned off when actually charging.)

The GoalZero Sherpa 50 Recharger Solar Recharging Kit (available with or without an AC inverter) is an ultra-portable power supply to keep laptops, tablets and other electronic devices charged up anywhere you go.

Because it has a 12-volt output, as well as a 5-volt USB output, you can even use it to run a 12-volt television panel, as well as other 12-volt devices. It also has a 19-volt laptop output with charging cable. With the various voltage outputs, the Sherpa 50 offers versatility not found on other power supplies. The Sherpa 50 Recharger is easy to pack and light to carry, so all your gear now goes the same distance you do and quickly recharges from the wall, car or sun.

The included Nomad 13 Monocrystalline Solar Panel (MSRP: \$159.99) allows you to charge devices directly from the panel via the 5-volt USB output, the 12-volt output or recharge the Sherpa 50 Power Pack, as well as a Guide 10 Plus Recharger, if you have one. There is a zippered pouch on the back of the panel with a junction box and cables, as well as plenty of room to store other items. It will charge a Guide 10 Plus in two and a half to five hours with appropriate sun and a Sherpa 50 in six to 16 hours. The panel can be chained with other GoalZero panels for additional power. I often use just the Nomad 13 on the back of my pack for charging the Guide 10 plus and other rechargers or to directly charge my phone while hiking or sitting at camp.

GoalZero offers various other sizes of portable solar panels, which can be chained together for additional power. They can be included in various kits, depending on the room you have available. Of course, there are various other manufacturers that make decent portable solar panels, but I have been satisfied with GoalZero and like the fact that all of this company's panels have multiple outputs and can be chained together for more power options.

BEFORE YOU BOLT

Last, but not least, you might be bugging-in during an emergency situation. Of course, all the above devices and techniques can be used. Power supplies can be recharged with a generator, if you have one. I have a portable power pack, which I always keep in my truck for jumping my vehicle or for additional 12-volt power when camping. It can also be used in the house to recharge various devices when the power is out.

If you have other types of 12-volt batteries at home, such as those used for an alarm system or those being charged by solar panels, they can be used with a 12-volt outlet with alligator clips and a 12-volt adapter. This can provide yet another resource for recharging.

There are many ways you can recharge your various electronic devices when on the go or even when at home without power. Make sure you find a recharging option that fits your needs and the size of your kit. Take a look around and find something that works for you.

And as always, be prepared to survive. **ASG**

SOURCES

Anker
(800) 988-7973
www.Anker.com

DE (Digital Energy)
(718) 251-0096
www.DigitalEnergyWorld.com

GoalZero
(888) 794-6250
www.GoalZero.com

Olight
(678) 424-1116
www.OlightWorld.com

UST (Ultimate Survival Gear)
(904) 786-0033
www.USBands.com




SUB-GARAGE SAFE HOUSE

**MEET BOMBNADO, THE NEW MINI FALLOUT
BUNKER THAT CAN HELP YOU RIDE OUT A
MAN- OR NATURE-MADE STORM.**

BY TORREY KIM



NBC ***SHELTER*** **DEFINED**



The BombNado is considered an "NBC" survival shelter because its air system can filter out nuclear, biological and chemical threats, keeping families and their supplies safe inside until the threat passes.

When you pull into your garage, what do you typically think about? Perhaps it's the stacks of your kids' athletic items lining the walls—or maybe your hunting gear hanging from the ceiling.

But wouldn't it be nice to pull into your garage with the complete knowledge that it houses your ultimate safety shelter, even though it's hiding in plain sight, right under your feet?

Enter the BombNado, your family's personal safe room, fallout shelter and temporary all-in-one safety hideout, which installs discreetly under your garage or right in your yard. Undetectable by nosy neighbors or even criminals, this home away from home can house your family and keep you safe—even if all hell is breaking loose outside.

A TEMPORARY SHELTER

The brainchild of Atlas Safety Shelters, the BombNado offers a level of security that can help ease your mind if you find out that bad weather, bad people or deadly weapons that can destroy your family are coming your way. Unlike Atlas' existing line of shelters, the new BombNado is created for those short-term shelter situations when you need to quickly take cover, and therefore, it's priced lower than the more luxurious shelters that are intended for longer-term living.

"Our goal was to create an NBC-class underground steel bunker for under \$20,000," said Ron Hubbard, owner of Atlas Survival Shelters. After listening to his customers' requests for an affordable fallout shelter, Hubbard realized he



BOMBNADO FLOOR PLANS

› The BombNado comes in a variety of sizes and options, starting at the 8x8 model, which sells for under \$20,000.



8' x 8'
1-2 Bed



8' x 10'
3-4 Bed



8' x 12'
3-4 Bed



8' x 16'
5-6 Bed



8' x 20'
7-8 Bed

› **Schematics:** The hatch to the BombNado opens out into the garage, but because it has an 8-ton hydraulic jack, the hatch can be opened at least 18 inches wide, even if a car is parked on top of it.

› **Below:** A visitor to this house would never know its residents are protected by an underground shelter tucked under the garage. The air intake tube leads to the yard, where fresh air can be acquired for those in the BombNado below.

› **Below, right:** The NBC air filtration system is shown on the left side of the illustration. An optional toilet can be installed, as shown on the right.

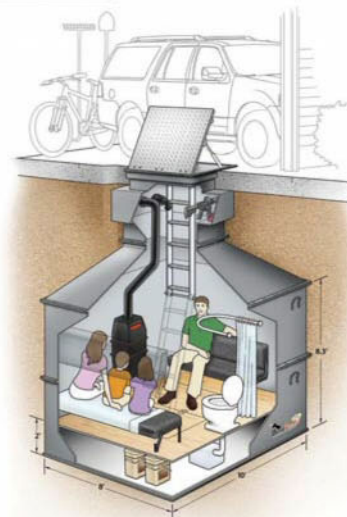
Specifications

- Size: The bunker is typically sized 8x8 feet or 8x10 feet.
- Depth: The bunker is buried 14 feet deep.
- Sleeps: Two to four people comfortably but can fit up to 10.
- Hatch size: 3x3 feet
- Storage: 160 cubic feet of storage space under the removable floor panels
- Options: LED lighting, retractable bunks and a couch, as well as several aesthetic options

MSRP

- Starts at \$18,999, plus freight. The BombNado is installed by a local dealer or contractor.

www.BombNado.com



“BECAUSE THE BOMBNAO SHELTERS ARE DESIGNED FOR SHORT-TERM USE, THEY DO NOT COME PRE-INSTALLED WITH TOILETS OR OTHER WASTE DISPOSAL UNITS.”

needed to reinvent this category for people who wanted a safe place to take cover but didn't have a fortune to spare.

“To buy the standard bunker I sell, it takes three things,” Hubbard says. “A big bank account, a large piece of property and a commitment to take care of a big bunker. It's the same commitment you would have with a sailboat. Some people don't have the land, money or commitment, but with the BombNado, you don't need those.”

Although the BombNado can filter fresh air from outside (thanks to an air intake tube placed above ground in a place of your choosing in your yard), it can also switch to NBC filtration immediately upon news that the outside air is contaminated, according to Hubbard.

HIDDEN IN PLAIN SIGHT

The BombNado fits directly under a garage space, so your best bet is to install the shelter when you're building the house so the contractors can pour the concrete around it at that time. However, you can install the shelter into an existing garage and simply re-pour the concrete afterward, Hubbard pointed out. (Keep in mind that you should confirm with your city ordinances that underground shelters are permitted and to find out whether you require any permits to do so.)

Hubbard said the shelters are watertight and can even be installed in wet areas such as Florida. Because the BombNado shelters are designed for short-term use, they do not come pre-installed with toilets or other waste disposal units. Customers have the option of installing a sanitation system of their choosing. While some people might prefer using a toilet that allows them to pump the waste into the ground, others might use storage containers or select a composting toilet.

The American-made NBC air filtration system that comes standard with the BombNado uses AC/DC power; however, it also features a manual crank override you can put into action in case the power goes out.

On top of the shelter is an aluminum hatch supported by I-beams,



READER QUOTES

We asked some of our readers about the BombNado underground shelter. Here are some responses:

How do you think you'd feel if you actually had to be in one of these for a month?

“A little uncertain and scared. But I would do what was necessary to survive.”—PD

“I think I would feel claustrophobic.”—LW, Pasadena

“I don't think I could stay in one of these for a month. I have a family of three, and I don't think you could store enough food or water for all of us for a month. Also, how do we get waste out of the unit?”—RA

What sort of problems do you think you'd face?

“The steel failed in the parking structure at Cal State Northridge after the Northridge earthquake. I'd be concerned about how this metal would be superior to steel. I'd also wonder about problems faced with the biosphere some years ago, which was on a much larger scale.”—HS

“Logistics and security. Only one way in and out. Very vulnerable on exiting. Even prairie dogs build elaborate burrows with a back door to escape predators.”—EV

“Supplies and fear of running out. I would also be concerned about the fresh air vents and something actually happening to them, such as debris falling in them or a fire or flood.”—JR

Would you ever consider spending \$20,000 on a BombNado shelter?

“I would never consider spending \$20,000 of my own money on a shelter like this one. I would rather put that kind of money into spiffing up my garage for the real world of today.”—LW

“Only if I lived in an area that was active with tornadoes and hurricanes.”—RF

“Yes. It's like buying a trailer, motor home, etc.”—TD

“No. You can buy a recycled shipping container for a lot less. Mine was \$1,100. Now, they're about \$1,500. People have buried several on their land.”—EV

Miscellaneous comments

“There are way too many governmental rules to build or install one of these.”—BS

“I believe that if it ever comes to the point you would need to have something like this, you will need to unite with your neighbors and work together to get through it.”—RA

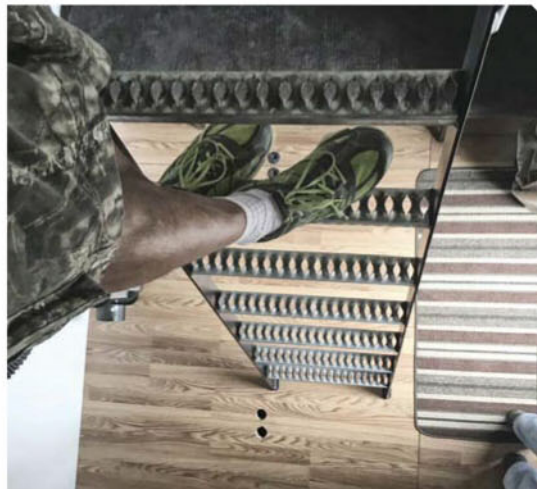
“I would want one of these installed without anyone else knowing—i.e., neighbors. The fact that you have to go through the permitting process and have construction going on is going to call all lot of unwanted attention.”—JR



› The BombNado is built by expert craftsmen to ensure it is secure from leaks or gaps.



› Below: The author proves that the bunk bed is comfortable for guests of any size, from kids to adults.



◀ Left: As long as you can climb up and down these stairs, you can get in and out of the BombNado with ease.

› Right: Two double bunk beds and a couch can fit inside the structure, although that can be reconfigured to each owner's taste and needs. You should ideally add the BombNado when your house is being built, but it can also be placed under your garage after the fact.

allowing you to access the shelter from your garage floor. The hatch has an 8-ton hydraulic jack to lift it, so even if someone parks a car on top of the hatch, the people inside could still open it at least 18 inches wide—ensuring that no one will ever be trapped permanently inside a BombNado shelter system.

You can even take Fido with you on your excursion underground. As long as you can carry your pets as you enter the hatch, you can safely get them into the BombNado. If you do plan to take pets into the shelter in the event of a threat,



“THE BOMBNADO IS COMPLETELY METAL, SO YOU CAN STICK IT UNDER YOUR GARAGE AND FORGET ABOUT IT.”

make sure pet supplies, such as food and a water bowl, are part of your stash of supplies in the shelter's storage unit.

DESIGN FEATURES

The BombNado comes with appealing and durable laminated oak floors and white walls. Customers can then customize the interior as they wish. Two double bunk beds and a couch can fit inside the structure, although that can be reconfigured to each owner's taste and needs.

Installing a BombNado is not a DIY project for the masses. Hubbard is currently establishing a network of dealers across North America that will sell and install these shelters.

“There is a little technical savvy to putting these in, making these level and getting them right,” he said. “I’ll be wholesaling to the dealers, but I can retail the shelter directly to [a customer] if there is no dealer in that person’s area.”

The shelters don’t have running water, but you have plenty of room to store your own water supply inside the 160 cubic feet of storage under the floor space. In addition, there is a battery pack under the floor to support the air filtration; that’s also where you can store blankets, cans of food, flashlights and anything else you think you might need during a crisis.

DRAWBACKS

The BombNado is completely metal, so you can stick it under your garage and forget about it. In fact, many people think of it as a camper—a place to head for the weekend for some extra time away from the house and a little peace and quiet.

If you do find yourself in a survival situation, you can spend up to 30 days in the bunker with a family of three or four, according to Hubbard. Nevertheless, it’s not the kind of place in which you can wait out a storm for months on end.

The underground nature of the BombNado means that even if your house burns to the ground, you’re safer in the bunker than you would be in the house. It’s 14 feet deep and completely metal, which could keep you protected. However, most survival experts warn against taking cover in the BombNado in case of a flood: Although the shelter is watertight, you might not want to be underground in this type of situation. **ASG**



◀ The BombNado is made of solid metal and can fit snugly under your garage.

EXCLUSIVE SURVIVAL GUIDANCE!

**YOUR
TIME ARK SERVICE MODULES
HAVE RETURNED
FOR YOUR DUE SURVIVAL**


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WILD URBAN EATS

**FIND THE FOOD THAT'S RIGHT
BENEATH YOUR FEET—WHETHER
YOU'RE IN THE CONCRETE JUNGLE
OR THE BACK OF BEYOND.**

BY CHRISTOPHER NYERGES



received a phone call one day from a man wanting to attend one of my wild food outings.

"I want to save money on my monthly food bill," he told me, "and I'd like to know how many of your classes I'll need to take before I can reduce my family's food bill down to zero."

It took me a minute or so to realize he was serious and that his primary goal seemed to be saving money. I explained to him that if he learned about even one edible plant, he could safely use that particular plant immediately. I also told him that it took me years of studying botany before I could go out into the forest for a week and find all my food.

I asked him, "Have you ever eaten any wild foods?"

"No," he replied.

"So, that could be another problem," I informed him. "If you've eaten 'normal' farm-grown and factory-processed food your whole life, you might find that your body might not like a complete diet of wild foods."

Then, I tried to explain the work involved in order to have a year-round supply of wild food.

"Yes, but I'd still like to know how many classes of yours I'd need to take before I can reduce my food bill down to zero," he persisted.

I told him he was asking the wrong questions. If reducing his food bill was of prime importance, I suggested he do as many of the following as possible:

- Buy food at the 99¢ store or at stores that discount older or discontinued items.
- Begin buying food when it is on sale,



◀ Far left: A patch of chickweed in the spring



◀ Left: Wild stinging nettle has a long history of use as a source of both food and medicine. Soaking nettles in water or cooking them removes the stinging chemicals from the plant.



◀ Left: It's hard to believe that Russian thistle is edible, but the tender portions can be cooked and eaten. They helped to stave off starvation during the "Dirty Thirties."

"TO INCREASE YOUR SURVIVAL QUOTIENT, LEARN ALL YOU CAN ABOUT THE WILD AND FERAL FOODS IN YOUR CITY."

WORTHY WEEDS

LAMB'S QUARTER (*Chenopodium album*): By now, everyone has heard of the quinoa plant and its wonderful, high-protein seed. The quinoa, a native of Central and South America, has a more common counterpart—a European native that is found all over the world: lamb's quarter. It likes the urban setting and is often found in the cracks of sidewalks.

Think of "wild spinach" when you see lamb's quarter. Its leaves can be used in any recipe, raw or cooked. Great added to salads, its leaves can also be chopped and added to soups, stews, omelets, pasta dishes, stir-fries, etc.

When this annual plant matures, it produces voluminous seeds, which can be harvested and added to soups, pancake batter and various grain dishes.

RUSSIAN THISTLE: When you see a mature Russian thistle, it's hard to believe you can eat this. But the young shoots can be clipped and cooked, and they make a pretty good spinach. Russian thistle helped to keep people in the plains states alive during the Depression and Dust Bowl days.

CHICKWEED (*Stellaria media*): Chickweed is an annual plant from Europe. It

sprouts after spring rains all over North America. It's seasonally available and usually all dried up by late summer. I make salads from chickweed whenever I can, adding dressing, tomatoes, whatever.

Yes, you can cook it in a soup or with eggs, but it's really best raw. It has tender stems, with a fine line of white hairs along one side of the stem. This tasty edible is very common in lawns everywhere.

STINGING NETTLE (*Urtica dioica*): This plant seems to prefer wet areas, but it does just as well in backyard urban gardens and little patches of soil in sidewalk cracks downtown.

It's from Europe, but it seems to be just about everywhere in North America. Keep in mind that if you brush the raw plant onto your skin, it stings (via formic acid), so this is not a salad plant. Nevertheless, the young, tender tops of nettle are great cooked into soups and stews, resulting in a delicious and very nutritious broth. I cook it often, using this plant's fresh or dehydrated leaves.

DANDELION (*Taraxacum officinale*): Everyone knows this yellow flower that springs up in lawns, and it does seem to prefer the lawns of the urban landscape. Dandelion is sometimes called "Poor

and always use coupons.

- Join a neighborhood co-op to get the lowest possible prices.
- Buy food in bulk at reduced prices.
- Begin to garden, growing only those crops you already eat and that do well in your area.
- Join a neighborhood garden.
- Learn to trade surplus backyard food with your neighbors.

And, if one needs food right now, learning botany might not be the best and quickest way to put food on the table. Remember: You can eat just about any bird, mammal, fish, crustacean, snake, lizard, etc.

In an urban, economic or political collapse, I suggested he might do well to learn how to trap rats and pigeons—and cook them well.

None of this seemed to interest the man, and he never wound up attending any of my classes.

If you are interested in exploring wild edibles, here are a few ubiquitous urban foods. In fact, most of these can probably be found in your own town.



**“EVEN
THOREAU,
AT WALDEN
POND,
LIKED TO
COOK UP
PURSLANE
FOR HIS
LUNCH.”**

Man's Ginseng." It is a powerhouse of vitamins and minerals. The leaves are best cooked, because they are bitter otherwise. Even the roots can be cooked until tender and then eaten. They can be washed, dried, ground, roasted and percolated to make a tasty coffee substitute. (Chicory roots are used similarly.)

SOW THISTLE (*Sonchus oleraceus*): When most folks see a sow thistle, they think it's a tall dandelion, because its flowers are nearly identical to those of a dandelion. Sow thistle is from Europe, and it grows everywhere. It typically grows a few feet high and features clusters of yellow, dandelion-like flowers. The leaves

of sow thistle are tender and palatable in salad (unlike dandelion, whose leaves must be cooked). Sow thistle leaves are also great in stews, egg dishes, soups, etc.

CHICORY (*Cichorium intybus*): Chicory is another European native that can today be found everywhere in the United States, whether rural, wilderness or urban. It likes fields and disturbed soils of urban backyards. I've seen it growing thickly in the little bit of soil found in the center strip of highways. The plant grows a few feet tall and sports leaves very similar to its sow thistle relative. However, chicory is much more noticeable, with its beautiful, sky-blue flowers.

➤ The common dandelion, with its yellow flowers, grows in fields and backyards everywhere.

Chicory leaves are OK in salads but are on the bitter side. They are better when cooked and used like spinach in soups, stews and mixed vegetable dishes.

MALLOW (*Malva neglecta*): Mallow is a European native found all over the United States. Mallow is recognized by its round leaves with fine teeth on the edges. Most people think it's an ornamental geranium when they see it. It can be found in alleys, parkways, empty lots and along the freeways, seeming to like disturbed soils. The leaves are mild and can be added to salads or any cooked dish, such as soup or stews. Its little fruits can also be picked and eaten fresh, or they can be picked when mature and cooked to create a sort of "poor man's" rice.

AMARANTH (*Amaranthus spp.*): All of the many species of amaranth are edible. Perhaps the most common in urban areas is *Amaranthus retroflexus*. This is a weak-stemmed amaranth with a red root that is quite often referred to as "redroot pigweed."

Although they are not native plants, they can be found in many pockets

➤ Far right, top: There are many species of amaranth in the United States. Some have tall and erect stalks (like the one pictured here); some are weak stemmed and sprawling. All have edible leaves and seeds.

➤ Right: The author examines an exceptionally tall mallow plant, which prefers an urban environment. (Photo: Francisco Loaiza)

➤ Far right, bottom: Chicory is common in the urban landscape. Its perennial root and stalk can rise taller than a child. (Photo: Rick Adams)



of soil in the cities and everywhere else. Some amaranths are low-growing, sprawling plants, and some are tall and erect, with big, red plumes of seeds.

Amaranth leaves have long been used in cooked green dishes and in various Mexican dishes, such as tamales. The seeds are collected when the plant matures. They are a high-protein addition to soups and bread batter.

PURLANE (*Portulaca oleraceae*):

This plant is widespread in the urban landscape and garden, typically appearing in summer. It grows flat on the ground and has round, red succulent stems and paddle-shaped leaves. The entire aboveground plant is good in salads and many cooked dishes and is regarded as the richest plant source of omega-3 fatty acids. This plant originated in India but is now found all over the world. Even Thoreau, at Walden Pond, liked to cook up purslane for his lunch.

VIOLET (*Viola spp.*): We think of violets as garden plants, and it is, but there are 500 species of *Viola* worldwide—growing in the wild, in gardens and going feral in people's yards. Because of its heart-shaped

◀ **Right:** Violets are widespread in the wild, as well as in cultivated urban gardens. Its greens are good cooked, and various jellies can be made from its flowers.



◀ **Above:** Oak trees are often used as urban landscaping trees. They produce acorns, which can be processed into food.

“WHILE MOST URBAN AREAS DO NOT HAVE ENOUGH LAND TO PROVIDE FOR THE LONG-TERM FOOD NEEDS OF ALL THE CITY’S RESIDENTS, THERE ARE, NEVERTHELESS, MANY FOOD CROPS GROWING EVERYWHERE.”

leaves, this is an easy-to-recognize plant, which continues to grow year after year from its roots. The leaves can be added to salads or cooked like spinach. Don’t overdo it, however, because it can have a bit of a laxative effect.

TIME FOR TREES

OAK (*Quercus spp.*): Many varieties of oak trees are found all throughout the world, even in urban areas. They are commonly planted as street trees, so if you live in the inner city, it’s likely some of the trees are oaks.

Oaks produce acorns in the autumn. All past cultures ate acorns, including most Native Americans. To eat acorns, first peel off the shells. Then, grind the acorns into flour.

It is essential to get the tannic acid out. I put the acorn flour into a filter (such as a coffee



◀ **Far left, top:** Purslane is a native of both India and Persia that can now be found worldwide. In an urban setting, it likes rose beds and sandy soil. Stems and leaves are edible raw or cooked.

◀ **Left:** Wild black walnuts are easy to harvest and difficult to hull, but they are worth all the effort, when you consider how great they taste.



◀ **Far left, bottom:** Acorn pancakes sizzle as they cook over a fire.



ALL ABOUT HIPS



HIP stands for "horticulturally introduced plants." There are ornamentals throughout the urban areas, and it's well worth your time to learn which of these can be used as food or medicine. These are plants people grow in the gardens or for landscaping. Often, they stay in the artificial urban setting, but they are good survivors, too, and you will see most of these in the wilderness.

APPLE: Apple trees are common throughout North America, although in the wild, the fruits tend to be smaller and tougher. Wild apples are most palatable when cooked.

LOQUAT: Loquats are common ornamental small trees whose fruit is often overlooked. The yellow fruits are sweet and tasty and are

one of the first fruits of spring.

OLIVE: Olive trees are widely planted in the warmer climates because they are evergreen and require little care. If these grow around you, learn how to process the olives and press them for oil. Olives and their oil are excellent survival foods.

FIGS: Various figs and ornamental figs, often called "figus," are found just about everywhere. All ficus fruits can be eaten, although the sugar content is typically low when the fruits are not cultivated.

EUGENIA: The Eugenia, or Australian brush cherry, is very commonly planted as a hedge or border shrub. Its maroon fruits are edible and sweet, but their texture is a bit like Styrofoam.

filter) and pour cold water through it. It's done when the flour is no longer bitter. Then, I mix the acorn flour half and half with other flours to make pancakes or cookies. It can also be used to make gravy.

WALNUT (*Juglans spp.*): Wild walnut trees are common throughout the United States and are usually called "black walnuts." They have a soft, fleshy outer cover, with the shell and meat within, and mature in the fall.

Wild walnuts require a hammer or rock to break. They are perhaps half shell and half meat but are well worth the work. The nuts are tasty and oily and great when added to cakes, ice cream, bread, etc.

READY TO DINE

Yes, there is plenty of food in urban areas, and most of it just goes to waste,

season after season. Besides whatever weeds grow wild in the cities, there is surplus from backyard gardens. There are also the occasional edible fruits from bushes and trees that were most likely planted only as ornamentals.

While most urban areas do not have enough land to provide for the long-term food needs of all the city's residents, there are, nevertheless, many food crops growing everywhere.

To increase your survival quotient, learn all you can about the wild and feral foods in your city. If you ever had to live off the land in the aftermath of an urban disaster, could you do it? You should at least be able to supplement your food supply with foods that are growing everywhere in the cities right now. **ASG**

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PC139 Galaxy

D

Side Release Buckles

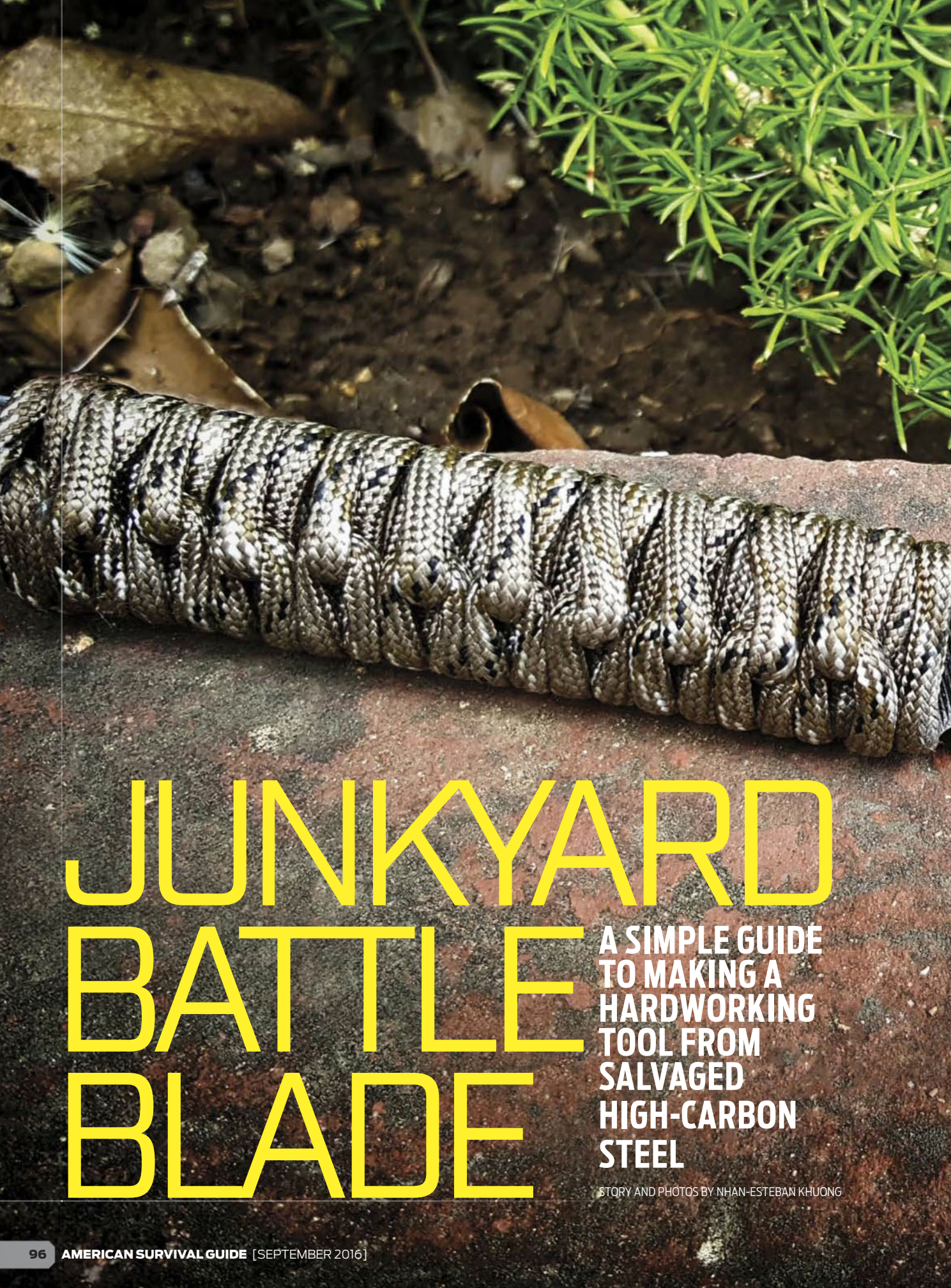
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JUNKYARD BATTLE BLADE

A SIMPLE GUIDE
TO MAKING A
HARDWORKING
TOOL FROM
SALVAGED
HIGH-CARBON
STEEL

STORY AND PHOTOS BY NHAN-ESTEBAN KHUONG



From the dawn of humankind, cutting implements have always formed one of the foundations of technological advancement. New technologies are often limited by the weaknesses of the tools used to develop them.

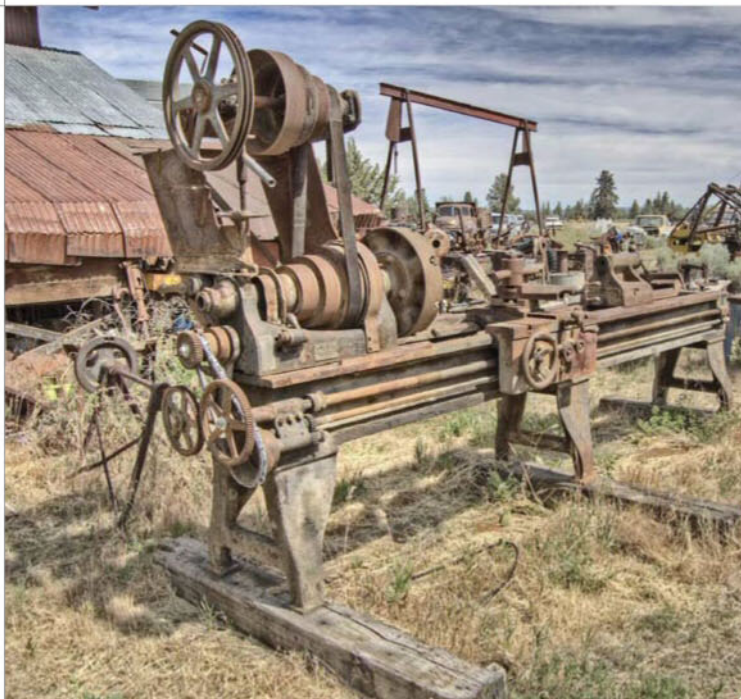
Obviously, our ability to make and improve the quality of our tools is directly related to our ability to survive and grow under challenging circumstances.

In today's world of cheap, mass-produced, disposable products, along with planned obsolescence as a marketing strategy, the skill of crafting one's own tools is quickly disappearing. Yet, this knowledge and ability that our ancestors relied upon in day-to-day life have allowed humankind to advance as far as it has.

As a bladesmith and primitive skills instructor, it is my goal to keep this knowledge alive and growing.

In this article, we will revisit—and hopefully, inspire—the critical survival skill of toolmaking by learning how to breathe new life into an old, worn-out file and turn it into a reliable working blade.

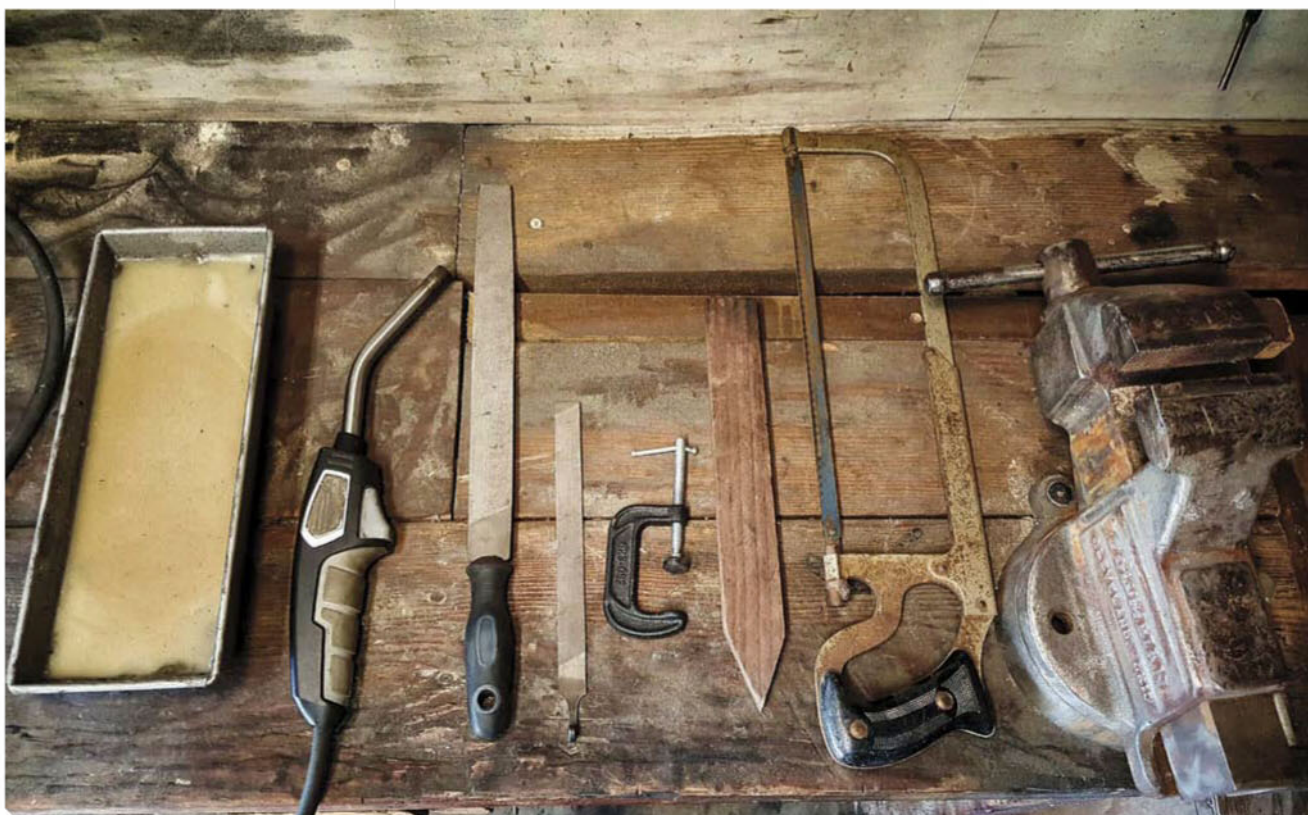
For this project, we will be fashioning a knife via the stock removal method using only simple and readily available hand tools. In essence, we will start with a file



◀ Sights such as this are a scavenger's dream. With some elbow grease, rusted steel ruins can be transformed into useful tools for myriad tasks.

◀ Below: The minimum required tools (from left to right) are a tub of grease and oil for quenchant, propane torch, sharp file, worn-out file, C clamp, block of wood, hacksaw with metal cutting blade and bench vise.

“AT MY SCHOOL IN LOS ANGELES, WE USE PRIMITIVE PIT FORGES AND CHARCOAL, WHICH ARE NOTHING MORE THAN MODIFIED CAMPFIRES.”



“AS A BLADESMITH AND PRIMITIVE SKILLS INSTRUCTOR, IT IS MY GOAL TO KEEP THIS KNOWLEDGE ALIVE AND GROWING.”

as our stock and remove any material that is not part of the knife locked within it.

HERE'S WHAT YOU'LL NEED:

- Old file
- New or sharp file
- Hacksaw with metal cutting blade
- Bench vise
- Small C clamp
- Propane torch
- Vegetable oil
- Block of wood
- Kitchen oven (optional)
- charcoal and grill

Although we are using a file here, any simple high-carbon steel would suffice. Some other options might include leaf springs, old saw blades or even a larger knife or machete that is damaged beyond repair.

It is important to note that some modern steel files are only case-hardened and are

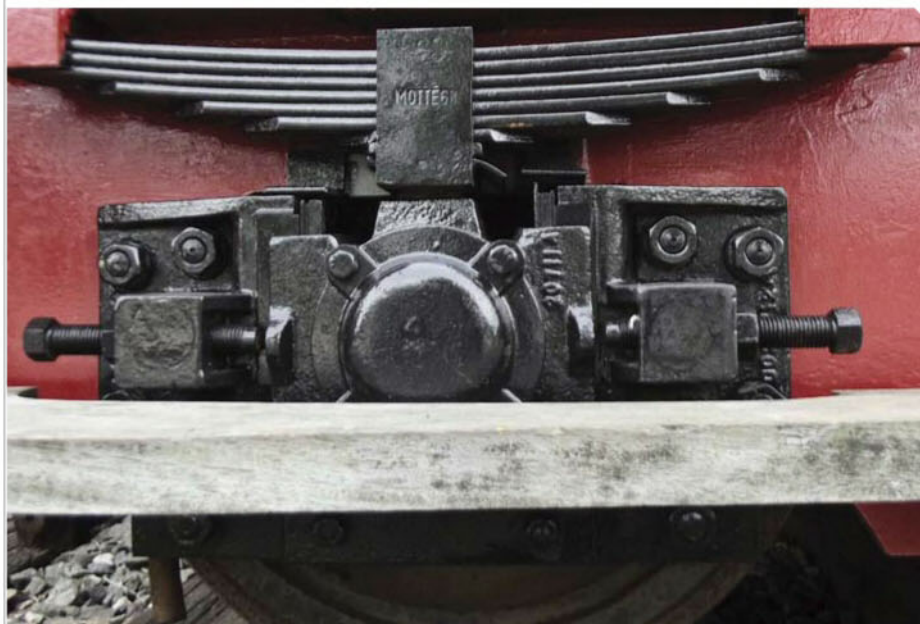
composed primarily of a softer, low-carbon or mild steel that only has a hardened skin. These case-hardened starting materials—although they can still be used as cutting tools—cannot be heat treated as we will be describing here. As a result, they will not have the quality cutting edge that can be achieved with high-carbon tool steel. As such, you will find that using trusted, name-brand files is one of the easiest and most secure options.

STEP 1: ANNEALING

Once you have all the tools and supplies, you will first need to anneal the steel in the file. Files are designed to cut metal, so the high-carbon steel is in a hardened state and will need to be softened before it can be reshaped with hand tools. This can be done by heating it up to a cherry-red glow using a propane torch.

Once the metal is brought up to temperature, it needs to be slowly cooled over the

◀ Below, top and bottom: Many a blade has been repurposed from leaf springs and other steel that can be readily found at the local scrap yard.



***“IN TODAY’S
WORLD
OF CHEAP,
MASS-PRO-
DUCED, DISPOS-
ABLE PRODUCTS
... THE SKILL OF
CRAFTING YOUR
OWN TOOLS IS
QUICKLY
DISAPPEARING.”***

course of several hours by covering it in ashes, warm sand or other insulating material. There are more-precise ways to anneal high-carbon steel using temperature-controlled electronic kilns. However, for our purposes, we are assuming that we have limited access to specialized tools. (At my school in Los Angeles, we use primitive pit forges and charcoal, which are basically nothing more than modified campfires.)

STEP 2: CUT A KNIFE BLANK

Now that the file is in a softened state, you’re going to create a knife blank. Secure the file in your bench vise and use your hacksaw to cut out a rough knife shape. You can use your sharp file to refine any rough spots the saw was not able to shape well. The file can be worked using the standard push file technique to remove material quickly.

Use the draw filing technique to create an even and flat surface. Having a few files with a variety of shapes and sizes is helpful but not essential.

STEP 3: CREATE BEVELS

You now have a blade shape that suits your needs. Secure your block of wood to the bench vise and fix your blank to the wood with the C clamp. In this way, you can now start filing in your desired bevels on the blade portion of your knife blank.

Make sure to file both sides evenly; keep the cutting edge centered with the spine of the knife. Using the block of wood will support the blade as you work on the flat and reduce the chance of accidental injury when bearing down on the workpiece. For safety, never leave the bare blade exposed where you or someone else can accidentally cut or impale themselves.



◀ The author heats the file with a propane torch.



◀ He heats the file to a cherry-red glow in preparation for annealing.



◀ The heated knife is being buried in vermiculite to cool slowly over several hours.



◀ The author cuts the file to the rough shape of a knife using a hacksaw and bench vise.



◀ Roughing out the knife is best accomplished using the standard push file method.



◀ Now that the knife blank has been cut, a sharp file is used to refine its shape.



◀ The completed knife blank has been cut and filed to shape. Now, it's ready to get beveled.



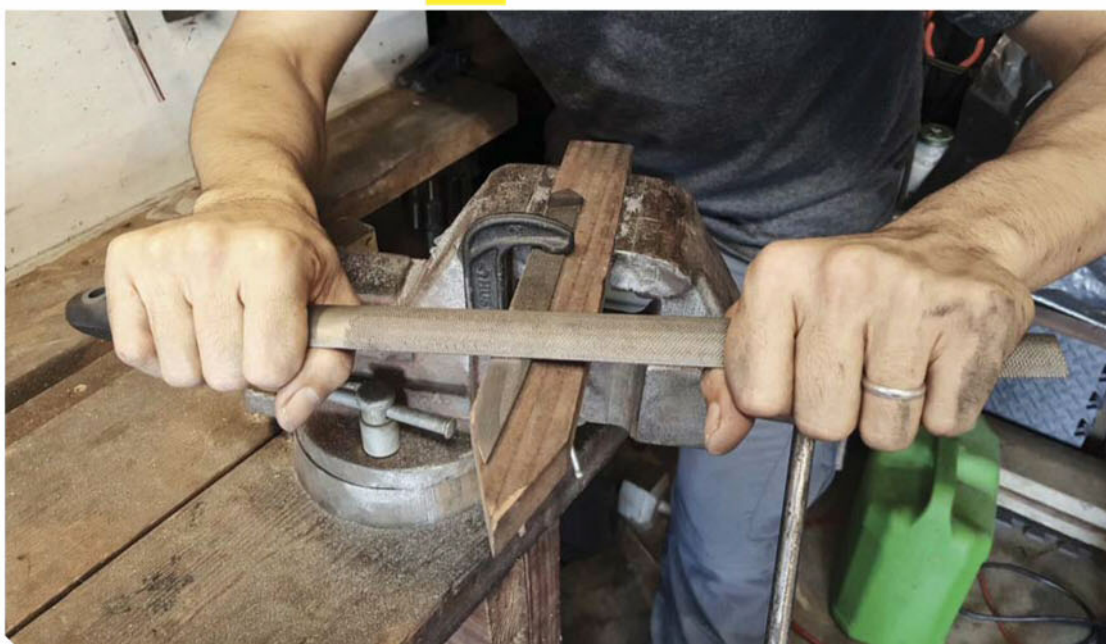
◀ For beveling, the author uses the standard push filing technique: He pushes the file with his left hand secured on the grip and applies downward pressure on the end of the file with his right hand.



◀ The push filing technique



◀ Using the draw filing technique, he refines the bevels of the knife. He grips both ends of the file like a draw knife and pulls it toward himself.



◀ The draw filing technique is used to refine the knife bevels.

SHARPENING DOs

- ◀ Be aware of the blade—and your flesh. After all, it is a sharp knife, and getting cut hurts.
- ◀ Use even pressure. It will keep the edge flat and smooth.
- ◀ Apply lubrication. Some say you don't need it, but it makes everything easier.
- ◀ Use a sharpener that's harder than your blade and relatively flat. The more abrasive the material, the faster it will remove steel.
- ◀ Remember: Slow is smooth, smooth is quick and quick is good. Slow down, and use long, smooth motions.
- ◀ Be consistent. The knife and the stone must always be at the same angle each time the blade moves across the sharpener.
- ◀ Be willing to move down in grit. Taking out some lower grit scratches is easier than trying to polish away steel.
- ◀ Keep your sharpener stable. The less it moves, the easier it is to keep a constant angle.
- ◀ Make a few touch-ups during the day, because it is faster than sharpening at night.
- ◀ Hold the blade at the same angle to the stone while sharpening. (Yes, I said it twice—it's that important!)



STEP 4: HARDEN THE BLADE

You already have a usable knife. However, to make the most of the high-carbon steel, it will be necessary to harden it. This can be done by using your propane torch and bringing the blade portion to a cherry-red glow, followed quickly by quenching it in warm vegetable oil. It is not necessary to heat the entire knife blank, because only the edge needs to be hardened. It is important to make sure the entire area to be hardened is heated evenly, avoiding hot and cold spots that will result in an uneven heat-treat and a potentially weak blade.

You can test for hardness by using the file to try and cut the edge of the knife. If the file skates over the surface, like trying to cut glass, your knife has been hardened. If your file bites into the knife edge, assuming you have a high-carbon steel, you will need to repeat this hardening step. Remember that you have only a second or two to quench the blade once it is brought up to temperature.

STEP 5: TIME TO TEMPER

After quenching, your knife is hard and brittle. So, now it is important to temper it and draw back some of the hardness to make the edge tougher and more flexible.

This can be done by first cleaning the knife, using sand paper to expose the bare, shiny metal and then heating it up to about 400 degrees for two one-hour cycles. You have to allow the knife to cool to room temperature between tempering cycles.

The easiest way to temper will be using a kitchen oven or toaster oven. Alternatively, a charcoal grill or even the coals from a campfire can be used. Although the option of carefully running the torch over the spine of the knife to slowly heat it is one method, it is the least preferable one, because the heat is far more difficult to control.

You will see a color change on the surface of the bare metal from a light gold to a rich straw to a dark bronze and then to a purple and bluish color. For a knife, a straw-to-bronze color is ideal—providing good balance of hardness and edge retention with flexibility and toughness.

STEP 6: SHARPENING

Your knife is nearly complete and just needs to be sharpened to become a serviceable tool. A sharpening stone would be ideal for this. However, sand paper is also a great option. Make sure to start



◀ The author is refining the bevels of the knife using the draw filing technique: He grips both ends of the file like a draw knife and pulls it toward himself. Safety glasses are a must for blacksmithing.



◀ The knife has been heated to an even cherry-red and is ready for quenching.



◀ The heated knife is being quenched by quickly plunging it into warm oil to harden it.



◀ The hardening process might call for more than one round of heating and quenching so that full hardness is achieved. The quenched knife shown above is not there yet.



◀ The author tests the knife for proper hardness by attempting to cut the knife with a sharp file. The knife is "ready" when the file skates over the knife like glass.



◀ The hardened knife is cleaned of grease and scale and then tempered in an oven heated to 400 degrees (F) for two one-hour cycles.



◀ The knife after heat treating reveals a rich, golden straw color on the bare metal. This coloring indicates a successful temper.

“IN THE EVENT YOU EVER FIND YOURSELF IN A TIME AND SITUATION WHERE MODERN CURRENCY IS WORTHLESS... THE SKILL TO MAKE A USEFUL KNIFE OR OTHER TOOLS FOR TRADE WILL BE INVALUABLE.”

with the coarser grits and work up to the finer grits to hone the edge.

STEP 7: FINISHING

Although your knife can now be used for cutting tasks, a handle and sheath will increase the comfort and safety of the tool. In this example, the knife has simply been wrapped with paracord.

FINAL SLICE

The method of knifemaking described here is not the most sophisticated way of making a knife. However, it is a simple, cost effective and relatively expedient way to repurpose a retired file and create a durable and effective cutting tool. By applying the heat treatment and stock removal principles in this project, we can potentially modify or repurpose worn-out tools and junk into life-saving equipment.

The natural progression in developing the skill of toolmaking (as well as my own specialty website: www.nhanviforgeworks.com) would be blacksmithing, in which we are not bound by the limitations of stock removal. Using fire, a hammer and an anvil, a smith can form a chunk of steel into whatever shape is required—and with minimal waste—much as a potter would form clay.

In the event you ever find yourself in a time and situation when modern currency is worthless (in its plastic and electronic forms), barter will be the new “money,” and the skill to make a useful knife or other tools for trade will be invaluable.

The ability to improvise and fabricate tools from readily available materials is not only a critical, long-term survival skill, it is also an essential aspect of human heritage and history. **ASG**



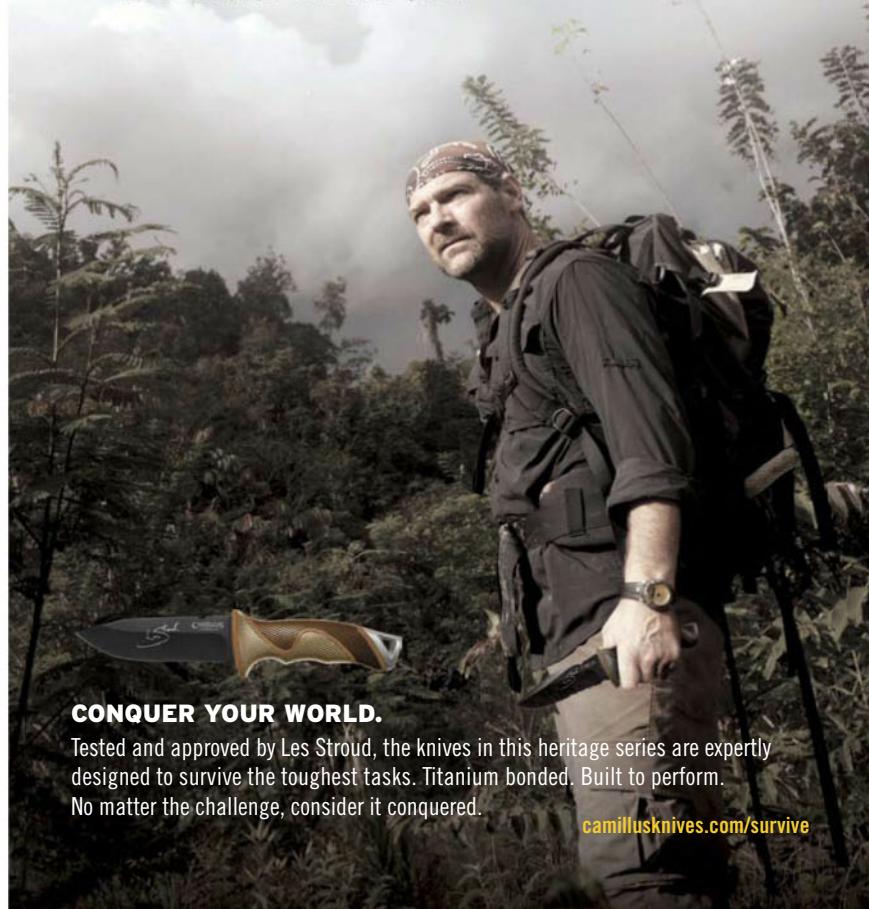
◀ The author has removed the file scratches from the bevels using a coarse abrasive and is now sharpening the edge with a Japanese water stone.

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**TAKING TRADITIONAL ARCHERY TACKLE
INTO THE 21ST CENTURY WITH TODAY'S
SUPER-STEALTH TAKEDOWN OPTIONS**

STORY BY LARRY SCHWARTZ

For a practice hike, this one was going pretty well. I was testing out a new pack to use as my bugout bag (BOB), and the frame was riding really well.

The 35 pounds on my back were feeling more like 25, and I wasn't feeling any hot spots on the hip belt.

The fact that I hadn't had any negative comments from the people and families I met along the trail made me smile. Because I also use my BOB on hunting trips, I had received comments in the past about the compound bow with the quiver full of arrows I had it riding in a scabbard on the outside of the pack. Parents were concerned I might be a danger to their kids. If it wasn't during a hunting season, park rangers and game wardens would stop me and ask a bunch of questions about what I was doing, why I was carrying a weapon ... that sort of thing.

Today was different, and I was enjoying the change. Today, I had a full-sized recurve bow with 55-pound draw weight limbs and a dozen arrows with a variety of hunting heads I could use for big game (yes, it was deer season), small game, birds or even fish. And it was all riding inside my pack in a quiver I could wear along my side if the opportunity arose for me to put some fresh meat in the cook pot.

How did I fit something that long inside a pack that was only 20 inches tall? Both the 60-inch bow and the 30-inch arrows could be taken down and hidden from view.

A few miles later, the chatter of gray squirrels caught my attention. Out came the quiver, and the bow and three arrows were quickly ready for action. A quiet stalk, some patient waiting for the right shot opportunity, and the protein for dinner wasn't to be the foil pouch of chicken I had brought with me.

“ARROWS, UNLIKE THE BULLETS YOU USE IN YOUR FIREARMS, CAN BE USED OVER AND OVER AGAIN ... ”



A CASE FOR TAKEDOWN BOWS

For millennia, the bow and arrow have been key tools for protecting yourself and your family and for putting food on the table. And they couldn't be more relevant than in a bugout situation. Traditional bows—longbows and recurves—are lightweight, almost silent when shot, easy to set up and, if something breaks, easy to maintain. Arrows, unlike the bullets you use in your firearms, can be used over and over again, as long as you don't bust them on a rock or lose them under the leaves.

A wide variety of arrowheads or "points" lets you use the same arrows for a wide variety of game. Bows also cost much less than a rifle, shotgun or handgun, and they don't have the same regulatory constraints that firearms have.

The ability to break down the bow and arrows into shorter pieces brings with it another set of advantages: They are easy to stow and carry and easy to hide from view, especially the arrows. With a one-piece bow, you only have the draw weight it comes with. With a takedown bow, you can carry multiple sets of limbs with different draw weights. You also have the option of bringing shorter limbs if you will be hunting in heavy brush or longer limbs if you don't need the maneuverability.

TAKEDOWN ANATOMY

In centuries past, innovative archers and bowyers have, no doubt, tried their hands at making a bow that could be taken apart.

◀ The SAS Tactical Survival bow packs like a dream and shoots darned accurately, too!

However, the first commercially made takedown bows first appeared in the late 1960s. These were normally a variant of one of the popular models with the limbs cut off at the riser. The archer would then re-attach the limbs to the riser via a bolt that passed through the limb and into a threaded insert glued in the riser. To keep the limb from moving from side to side once it was re-attached, a pin was inserted into the limb and slipped into a hole in the riser. The bolt was then tightened, either with a knob fitted to its head or with a hex-style wrench.

Another method of taking the bow down was by cutting the riser in half and fitting the two pieces with a metal joint held together with one or more pins or screws. These also required the use of tools to assemble and disassemble the bow.

A notable exception to this was the Fred Bear Take Down Bow (FBTD) that came out in 1969. The FBTD used a patented locking latch system that didn't require any tools or additional parts. You simply slipped the bow's limbs into the limb pocket on each end of the riser and closed the latch. No tools were required, and there were no parts to lose or forget.

This is the style of bow I use for hunting. It epitomizes the flexibility that a takedown bow offers the archer or prepper. It comes in different-length risers and different-length limbs, and each length of limb comes in different draw weights. This lets you customize your bow to your needs by getting the riser and limb lengths that fit your shooting style and the draw weights needed for the task at hand.

This different-length risers and limbs approach has been copied by a number of independent bowyers over the years because of its practicality and popularity. For the do-it-yourselfers among us, the techniques used in the past can be implemented in your own workshop to turn an existing bow into a takedown bow.

TAKEDOWN BOW & ARROW MAKERS

BEAR ARCHERY

If it sports the name of legendary archer Fred Bear, then you know it's worth carrying afield.
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www.BearArchery.com

LANCASTER ARCHERY

Lancaster Archery Supply is a one-stop source for nearly anything you'll need to hit the ground running.
(717) 656-7229
www.LancasterArchery.com

MARTIN ARCHERY

Martin has a good and affordable selection of metal-riser takedown bows.
(509) 529-2554
www.MartinArchery.com

PRIMAL GEAR

Maker of the innovative Compact Folding Survival Bow, Go Primal has what you need when it comes to arrows, heads, packs, traps and other food-getting accessories.
(912) 519-0120
www.GoPrimalNow.com

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SRO carries all manner of outdoor gear, including takedown bows, arrows, points, saws and knives.
(317) 791-8777
www.SelfRelianceOutfitters.com

SURVIVAL ARCHERY SYSTEMS

The SAS Tactical Survival Bow, along with its takedown arrows, make up a package that must be seen and shot to be believed. SAS is taking undercover survival to the extremes.
info@SurvivalArcherySystems.com
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3 RIVERS ARCHERY

This company bills itself as the longbow and recurve expert—and for good reason: It is.
(866) 732-8783
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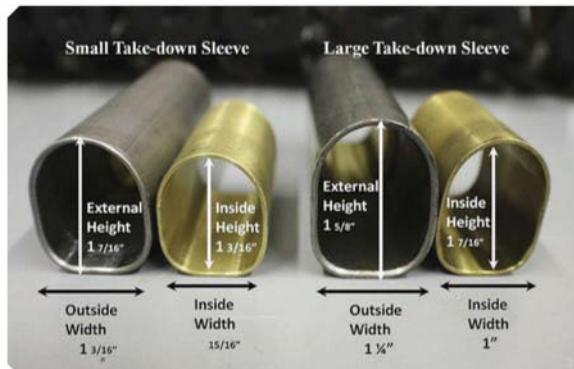


EQUIPMENT FOR EVALUATION:

1 Bow in collapsed position

2 A pair of modified, 31-inch Easton XX75s

3 Camo case/quiver



◀ **Left:** A very popular method for making a takedown longbow is to cut the riser in half and fit it with these sleeves—the smaller one fitting snugly into the larger one. (Photo: Echo Archery)

◀ **Right:** This bow joint connection provides a very strong joint that keeps the two pieces of the longbow together and prevents them from twisting in your hand. (Photo: Ace Archery)



› One of the main advantages of using a takedown bow, whether it is a traditional design or one of the recent “survival” bows, is that you can take extra limbs with you in different draw weights. (Photo: Primal Gear)

“THIS IS THE STYLE OF BOW I USE FOR HUNTING. IT EPITOMIZES THE FLEXIBILITY THAT A TAKEDOWN BOW OFFERS THE ARCHER OR PREPPER.”

ability to not look like a bow at all. They are normally black-coated metal with fiberglass limbs that are very narrow—only an inch or 2 wide at most.

TAKEDOWN ARROWS

While takedown bows have been around for decades, takedown arrows and the commercial availability of the parts needed to make them are a relatively recent phenomenon. Do-it-yourselfers were using arrow inserts and pieces of threaded rod for about 20 years to turn aluminum and carbon arrows into takedown arrows in their home workshops. The problem was that the threaded rod found at most DIY superstores isn't strong enough to stay straight when an arrow hits something hard or at an angle.

However, Wyatt Survival Supply, LLC, a small, family-owned company in Indiana, has come out with the parts in a commercial package that companies and individuals across the nation are now using to make takedown arrows for bugout bags and hunting backpacks. The inserts are modified versions of the aluminum-point inserts used in one-piece aluminum or carbon arrows for screwing the arrow's point onto the arrow. This manufacturer added threading



› The two pieces of takedown arrow connectors screw together and are glued into the aluminum or carbon arrow shafts to make the takedown arrow. (Photo: Primal Gear)

› These “survival” bows fold into themselves in a compact package that is easy to store in your vehicle or your pack.



to one of the two inserts used to make the takedown joint and came up with the solution that many were looking for.

To turn your one-piece arrow into a two-piece arrow, cut it where you want with your preferred cut-off tool, smooth off the ends of the cut-off pieces, and glue in the takedown inserts. Most people cut the arrow in the middle and don't experience any difference in arrow flight from their one-piece arrows.

Alternatively, putting the cut about one-third of the way from the front end can increase your forward-of-center (FOC) weight and might improve your arrow's flight.

DIY STORAGE TUBES

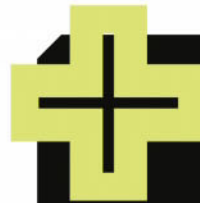
Although there are several companies making bags or small packs designed to keep your takedown bow and arrows together and protected, you don't have to go that route. A thin-walled PVC pipe with a couple of end caps will provide all the protection you might need. Alternatively, one of my survival bows came with a round quiver that can be strapped to the side of a MOLLE backpack or stored inside. It holds both the collapsed bow and six fletched arrows. An even simpler method is to just roll it all up in a blanket, jacket or poncho liner and stash it in your pack or duffle bag, where it won't be noticed.



➤ Above, left: While most takedown bows use a bolt-on system, such as the Jeffery QT Takedown (bottom), the Fred Bear Field Model (top) uses the manufacturer's latching system. (Photo: Larry Schwartz)



➤ Above, right: Another way to connect the two pieces of a takedown longbow is with a sleeve that allows one piece to slip into the other piece. (Photo: Larry Hanify)



DIY HOOKUPS

The following companies provide the equipment you need to make your own takedown bows and takedown arrows:

ACE ARCHERY

(877) 549-3444
www.AceArcheryTackle.com

ACS BOWS

(616) 677-2726
www.ACSBows.com

BINGHAM PROJECTS, INC.

801-399-3470
www.BinghamProjects.com

WYATT SURVIVAL SUPPLY, LLC

(765) 318-2872
www.WyattSurvivalSupplyLLC.com

BEFORE YOU GO

I like to bowhunt and plan to use that skill if I ever have to bug out to a remote or wilderness area. Now that you know there is another stealthier and quieter way to use a bow and arrows as part of your bugout gear, give some thought to adding a takedown bow or one of the survival bows, along with some takedown arrows, to your bag of survival tricks. Because they are so compact and relatively inexpensive, there's really no excuse for not owning one for those just-in-case scenarios. **ASG**



WE SHALL NEVER FORGET SEPTEMBER 11, 2001

On September 9, 2006, the 60-foot-long VICTIMS' QUILT (1) was dedicated to 9/11 families and accepted on their behalf by Bill Doyle, father of victim Joseph Doyle. In turn, Doyle presented the quilt in the name of all 9/11 families to the 9/11 Memorial Museum.

As a fully united country, we shall forever mourn the great losses stemming from the 9/11/01 terror attacks.

We shall remember and honor our nation's first responders, our nation's and our allies' military personnel, as well as those everyday citizens

who made, and continue to make, the ultimate sacrifices for the preservation of our nation's security.

May God bless America and the families and friends of all who perished on that fateful day. And may He bless and watch over all who continue to steadfastly fight global terrorism. **ASG**



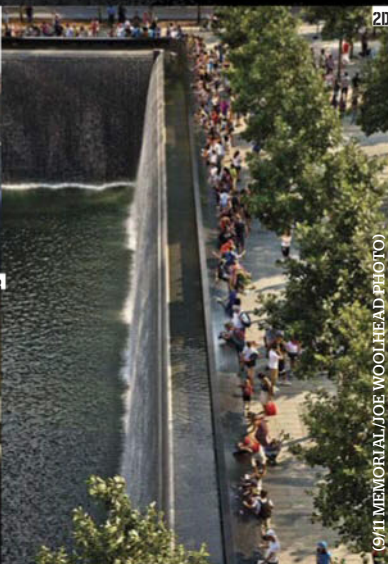
(9/11 MEMORIAL/JIN LEE PHOTO)



2A



2B



2D

MEMORIAL PLAZA

The Memorial Plaza's twin reflecting pools (2a-2d) are each nearly an acre and feature the largest manmade waterfalls in North America. The pools sit within the footprints where the Twin Towers once stood.

SURVIVOR TREE
A Gallery pear tree became known as the "Survivor Tree" (3a, 3b) after enduring the September 11 terror attacks at the World Trade Center. In October, 2001, the tree was discovered at Ground Zero—severely damaged. After its recovery and rehabilitation, the tree was returned to the memorial site in 2010. New, smooth limbs extended from the gnarled stumps, creating a visible demarcation between the tree's past and present. Today, the tree stands as a living reminder of resilience, survival and rebirth.



2E



2F



2C

(9/11 MEMORIAL/JIN LEE PHOTO)



3A



3B

PENTAGON

The National 9/11 Pentagon Memorial (4) is the first national memorial dedicated to the tragic events that occurred on that bleak day. Memorial Unit benches represent all 184 lives lost in the attack on the Pentagon. Surrounding the benches are 85 Crape myrtles and the Age Wall, which grows 1 inch in height per year relative to the ages of the victims. The Pentagon Memorial has an emotive power that few other memorials have, due both to how recently the tragedy it pays homage to occurred and its comprehensive listing of victims.



4



FLIGHT 93

The Flight 93 National Memorial (5a) is located at the site of the crash of United Airlines Flight 93, which was hijacked in the September 11 attacks in Stonycreek Township, Somerset County, Pennsylvania, about 2 miles north of Shanksville, Pennsylvania. The memorial was made to honor the victims of Flight 93 who stopped the terrorists from reaching their target. A temporary memorial (5b) to the 40 victims was established soon after the crash, and the first phase of the permanent memorial was completed, opened and dedicated on September 10, 2011. Hundreds of remarkable stories, facts, visitor information and videos about the memorial can be found at www.NPS.gov.



5A



5B

MESS KITRx

KICK UP YOUR FIRST AID KIT SEVERAL NOTCHES WITH THESE SUPER EIGHT MEDICINAL HERBS AND SPICES.

TEXT AND PHOTOS BY WILLIAM MYERS

Having knowledge of your local plants and their medicinal uses can have infinite possibilities. But sometimes, some plants are not available. This is where the spices and herbs we carry in our mess kits can replace local medicinal plants.

My mess kit always has garlic, cayenne, sage, oregano, cinnamon, cumin, salt and pepper. I use old diabetic test-strip containers to hold all my spices, and they fit nicely into a 2-quart pot. This allows me to season my food the way I do at home.

Although I use all these spices to season my food, I will list all the ways I use these spices to replace some of the medicinal wild plants that I find in the woods.

GARLIC USES

Garlic is one of the most versatile herbs that I pack. Long-term use of garlic in our diet can help lower blood pressure and reduce the risk of heart attack and stroke by dilating blood vessels, which, in turn, allows blood platelets to flow more freely. Garlic also reduces the platelets from being able

to stick together. Studies show that garlic can lower LDL cholesterol while not harming good HDLs.

Garlic has antibiotic and antifungal properties. Make a paste with water that you've boiled and then cooled. Blend granulated garlic and apply to the affected area at night before going to bed.

When I feel a cold or cough coming on, I make teas to drink; garlic is one of the more important ingredients. Drinking garlic tea, along with a good vitamin C source (such as pine needles), is a great immune-booster when goldenrod and boneset are not around. Garlic is a good anti-viral and can be used to help get rid of little nasties, such as giardia, that can cause viral diarrhea.

Last, but not least, everything tastes better with a little garlic, so it will always have a place in my mess kit.

CAYENNE KICK-UPS

This is a great spice to bring with you on your adventures in the wild. There's nothing better on a cold night than a cup of hot cocoa with a dash of cayenne pepper in it.

Cayenne does some of the same things



➤ The author, shown here with his fully stocked mess kit, is a student of history, especially the 18th century. Learn more about Mr. Myers at www.MantisOutdoorsilc.com.



➤ Above: The entire mess kit is stored inside a cotton bandanna for easy removal. The bandanna is used for cleaning and an assortment of other uses.

➤ Right: Diabetic test strip containers or 35 mm film canisters make perfect waterproof spice containers.

as garlic. Cayenne stimulates digestion and nutrient absorption. This is desirable when stress can inhibit the digestive process. It also stimulates the production of the mucus glands; this mucus mayhem can have great sinus decongestant effects. Cayenne raises the body temperature—a plus for a cold winter's night spent in your shelter.

Cayenne is also a diaphoretic (sweat-inducing) spice that can be used to reduce a fever from a cold or flu. As mentioned above for garlic, cayenne can improve blood circulation and prevent blood platelets from sticking to each other, thereby helping to lower blood pressure and the risk of heart attack and stroke.

The improved circulation cayenne can produce can be used by adding cayenne in your socks and gloves to help keep your



First Aid Kit Foods



1

1 Sea salt

2 Cayenne pepper

3 Garlic

4 Fresh sage

5 Cinnamon

6 Fresh oregano

7 Black ground pepper

8 Cumin seeds

2

3

4

5

7

6

8

“... WHEN I STOCK MY MESS KIT, I THINK ABOUT THE MAJOR AILMENTS I MIGHT COMMONLY SUFFER FROM WHEN I AM HIKING, CAMPING OR PRACTICING BUSHCRAFT: HEADACHE, WOUND CARE, UPSET STOMACH, DIARRHEA AND RAISED BLOOD SUGAR.”

hands and feet warm. In addition, a pulled muscle can be rubbed with cayenne pepper to act as a muscle rub.

However, cayenne is more important to me as a blood-clotting agent when I have a bad cut. If it's not spring or summer, I will reach for the cayenne pepper in my mess kit. Not only will it stop the bleeding, it also has anti-microbial properties. Cayenne dumped into a wound causes the body to produce a chemical called “substance P,” which acts as a painkiller.

SAGE SAVVY

Sage is not only a great-tasting herb, it also has some great medicinal uses. Sage tea can be used to alleviate gas and other intestinal pains, including bloating. It can be a great way to relieve heartburn and can reduce sweating if used in a cold infusion. The same infusion can be used for sore mouth, throat and ear issues.

I boil water, then cool it and steep sage for 20 minutes. The boiling is to ensure that other bacteria are not introduced when I am using sage as a medicine. I add four drops to an inflamed ear twice a day or gargle the same sage infusion with a little salt for a sore throat or mouth problems.

Smoking dried sage can have some of the same effects as common mullein in relieving lung congestion and the effects of asthma.

CINNAMON SECRETS

Cinnamon can dress up sweet bannock and goes great with roasted Japanese knotweed over a fire. But I'll bet you didn't think to grab the cinnamon when your stomach is “rumbling,” as my 4-year-old would say.

First, however, you should be aware that what you have in your kitchen cabinet is probably not true cinnamon. True cinnamon, a.k.a. Ceylon cinnamon, comes from the plant *Cinnamomum zeylanicum*.

True cinnamon can be hard to come across but is worth the effort, especially if you are a diabetic. *Cinnamomum cassia*, sometimes sold as cinnamon, can't compare to true cinnamon in its ability to reduce blood sugar.

Cinnamon can have the same antimicrobial effects as cayenne and can stop bleeding in an instant if applied to an open wound. If I have an upset stomach, a tasty cinnamon tea will ease my stomach within 30 minutes.

And, because I am a type 2 diabetic, I always carry cinnamon. If I run short of chaga, I will use cinnamon to lower my blood sugar if I feel the need.

SALT SMARTS

Have you ever heard of hyponatremia? It

is a condition that can be misdiagnosed as rabies. With hyponatremia, the body sweats out the sodium levels (along with zinc and other elements) and is hydrated with water that lacks salt faster than the sodium can be replaced by meat and plant sources. Salt is one of the body's most important elements. In fact, the neurons in the brain depend on sodium to start the signal reaction to the axon tube that travels to the synapses. This means low sodium levels can impair your ability to think clearly.

Salt improves circulation and starts the body warming itself from within. Patients suffering from hypothermia are given salt water to encourage the body's ability to fire the hypothalamus and start warming from within.

Another use for salt is to kill bacteria. Rubbing salt into a wound can stave off infection. Rinsing the mouth with salt water helps heal wounds and also kills those germs that cause bad breath.

Because germs don't like salt, it can also be used to preserve meat.

PEPPER POSSIBILITIES

What do I not put pepper on? Well, other than ice cream, salt and pepper go on everything and will always be packed somewhere when I am out and about.

Other than its ability to season food when ground, peppercorns (*Piper nigrum*) hit the taste buds, sending signals to the stomach to increase hydrochloric acid. This acid is important for the body's digestive system.

Ground peppercorn (I carry mostly black pepper) can help cure a headache (which happens to me when I foolishly run short of coffee). Adding a heavy dose of black pepper seems to help any headache I have when I am in the woods. Furthermore, a broth made with ground peppercorns warms the body at night before rack time because it increases blood circulation.

Pepper has some of the same effects of cayenne pepper in reducing blood pressure. Peppercorn is also good to use for an upset stomach and cramping.

Pepper also has great antioxidant and antibacterial properties. So, having just one more item in my pack that tastes great and helps me treat a possible wound is a win-win.

OREGANO TIPS

Oregano is my infection-fighter. If a wound shows the signs of infection, I will boil down oregano two or three times, adding more oregano to the decoction each time. The antimicrobial activity in oregano is not harmed by this high heat process.

I'll carry this solution in a plastic Nalgene



➤ Sage is a multi-mission workhorse. Sage tea can be applied topically as a rinse or gargled to reduce inflammation. Sage can also be used to relieve muscle tension, indigestion and more.

bottle and treat the infected area three or four times a day. I also use oregano for earaches. For badly inflamed ears, I will combine both oregano and sage. Added to broth, oregano helps defend from cold symptoms and also gives me a good energy boost.

CURING WITH CUMIN

Cumin is a great spice to treat indigestion issues. I also use it in teas and broths for minor aches and pains. Cumin is a diuretic and can be used to detoxify the kidneys. (However, be careful: When consuming a diuretic, the kidneys push more salt into the urine and pull excess water from the blood.)

Cumin in paste form is great for treating wounds. I make a thick paste of cumin and cover minor cuts and scrapes to help keep them free of unwanted bacteria when I trek through the woods.

Cumin has been shown to lower blood sugar levels. In addition, regular use of cumin can prevent diabetics from developing cataracts.

SPICE RACK READY?

I am always looking out for plants and utilizing them as needed. But I always remember that if I can't find what I am looking for, I have a substitute in my mess kit. I do find that some natural medicinal plants have a stronger effect in or on my body, which I attribute to using a fresh plant instead of a dried spice or herb.

Nevertheless, when I stock my mess kit, I think about the major ailments I might commonly suffer from when I am hiking, camping or practicing bushcraft: headache, wound care, upset stomach, diarrhea and raised blood sugar. **ASG**

➤ Variety is the spice of life! Besides helping to make food on the trail more palatable, many spices can be put to good use for medicinal purposes.





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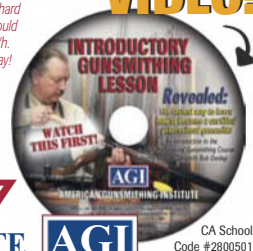
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URBAN MEDIC HANDBOOK

A BASIC “LEARN TO DO OR DIE” GUIDE FOR TREATING TRAUMA VICTIMS IN YOUR PARTY

BY JOE ALTON, M.D.

Without the rule of law, it's been said that we're only a couple of weeks away from cannibalism. This is especially true when a major disaster hits an urban area. The sheer number of people knocked off the grid without access to food and clean water will cause things to turn ugly very quickly.

You'll often read that when it hits the fan, the best course of action is to head to your rural retreat. Few folks have this option, and it's not simply due to financial factors. You can expect roads to be closed early by the authorities, and not many will recognize the trigger events early enough to get out of Dodge.

Most people live in cities and will have to figure out how to survive in place. This involves having something to eat and personal protection but also the ability to deal with medical issues. You need not just the beans and the bullets, but the bandages, as well.

Although trauma is what most people think about in urban survival, most deaths will occur due to the lack of clean water. Water treatment facilities will break down, and epidemic disease will run rampant. Issues with hygiene and sanitation will cause

the general health of the population to weaken, causing them to become susceptible to infectious diseases.

Dysentery, cholera and other diseases will lead to severe dehydration. Without the availability of IV fluids and antibiotics, these illnesses will again threaten entire communities. If you doubt it, consider this: More soldiers in the Civil War died of dehydration from dysentery and other illnesses than from bullet or shrapnel wounds.

THE FAMILY DOC

Urban survival scenarios put you at constant risk for encounters with hostiles in tough environments that involve physical trauma. Therefore, every family must have a medic; someone who has accumulated medical knowledge and supplies that might save a life.

Training for would-be survival medics can be obtained in first aid and Community Emergency Response Team (CERT) classes offered by many municipalities. You should be aware that these classes assume the availability of transport to modern medical facilities. This may not be an option in survival scenarios, so the medic must be ready to assume care for injuries and illness from beginning to end.

This will be a challenge, but when the

normal emergency medical system is non-existent, the properly equipped medic will prevent a lot of unnecessary deaths. Some lives will be saved as a result of attention to proper water sterilization, food preparation and hygiene practices, while others will be saved by preventing and treating trauma.

TRAUMA ASSESSMENT

The initial field assessment of a trauma victim usually involves the acronym ABCDE:

◀ **AIRWAY:** *Is the airway open?*

◀ **BREATHING:** *Is the victim breathing?*

◀ **CIRCULATION:** *Is the victim bleeding?*

◀ **DISABILITY:** *Can the victim feel and move extremities? Can they respond appropriately to questions?*

◀ **EXPOSURE:** *Can you see the full extent of the injury? Are there hidden injuries, such as an exit wound?*

In the actively bleeding wound, the sequence changes to CABDE. In normal times, medical personnel may be dealing with heart attacks and strokes, but in urban survival, deaths will occur more often from hemorrhage. Bleeding must be controlled in short order.

You might have heard of the “golden hour.” If a trauma victim fails to get help within the



BLOOD LOSS



An average-sized human adult has about 9 or 10 pints of blood. The effect on the body caused by blood loss will be in line with the amount of blood loss incurred. It might be difficult to assess the amount of hemorrhage, but these physical signs will give you a good idea of what you're dealing with:

◀ **1.5 pints (0.75 liters) or less:** little or no effect; for example, you can donate a pint of whole blood as often as every eight weeks.

◀ **1.5 to 3.5 pints (0.75 to 1.5 liters):** The victim is usually agitated, with rapid heartbeat and respiration. The skin becomes cool and might appear pale.

◀ **3.5 to 4 pints (1.5 to 2 liters):** Blood pressure begins to drop; your patient might begin to show signs of altered mental status. Heartbeat is very rapid as the body tries to maintain oxygenation.

◀ **More than 4 pints (more than 2 liters):** The victim is now very pale and might be unconscious. Blood pressure drops further; heart rate and respiration decrease. This patient is likely in shock.

first hour, the chances for survival decrease significantly. With severe hemorrhage, however, this becomes what I refer to as the "platinum five." Five minutes of arterial bleeding, and the casualty might be beyond help, especially if off the grid. Arterial bleeds can be identified by a bright-red color that spurts out in concert with the pulse.

Having a pair of EMT shears or bandage scissors is a mandatory part of any medic's kit. Shears of this type allow you to cut away any clothing that prevents you from seeing the extent of the injuries. The bleeding isn't always coming from the first wound you see. If you don't fully expose the area, you could easily miss a secondary (or even the primary) wound.

STOP THE BLEEDING

A gunshot makes an entry wound, but there could also be an exit wound, dependent on various factors. You might expect an exit wound to be directly opposite the entrance wound, but this isn't always the case. The bullet might have bounced off a bone and moved in an entirely different direction. The position of the victim when

shot is also important: If they were in a crouching position when hit in the chest, the exit wound might well be in the lower back or buttocks.

A person with a major bleed can often go into shock. Keep them warm by covering them with a blanket (cloth or Mylar). If the wound is in an arm or leg, raise it a good 12 inches above the level of the heart. This decreases the blood pressure in the extremity, and thus, the force by which blood leaves the body. It also makes it easier for the heart to oxygenate the brain and other vital organs. If the wound is in the torso, however, do not elevate the legs.

In the great majority of cases, direct pressure with gloved hands on the bleeding vessel might stop bleeding all by itself. In severe hemorrhage, however, it might be obvious that this action alone is not enough. Current Tactical Combat Casualty Care (TCCC) guidelines favor the early use of a tourniquet to decrease the total amount of blood loss and increase the chance of survival.

There are a number of different tourniquets available commercially: SOF-T, CAT, RAT, SWAT and many others. It's advisable to have more than one tourniquet, because sometimes, two tourniquets are needed to stop the bleeding. Tourniquets should be applied at least 2 inches above the bleeding area and tightened until the bleeding stops. Be aware that it will be a painful experience for the victim.

Avoid placing a tourniquet on a joint. On a bleeding wound to the forearm or lower leg, some people will place the tourniquet on the upper arm or above the knee. Others frown upon this, because more uninjured areas will be compressed. If one tourniquet fails to stop the bleeding, adding another one farther up the extremity might be necessary.

Hemostatic agents (products that stop bleeding) should be part of every medic's kit. Quikclot and Celox dressings are easy to work with and are widely available online. Simply pack the dressing directly on the bleeding vessel and apply pressure for three minutes. In most cases, even arterial bleeding will stop.

The medic must also have a good supply of dressings to deal with hemorrhagic wounds. Always have more of these than you think you would need, because just one severe bleed can use up the majority of your bandages. It's important to have Israeli Battle Dressings (known as the Emergency Bandage in the United States) or other pressure dressings, as well as different sizes of gauze that could work with various wounds. Many of these, such as the H&H brand, come sterile and vacuum-packed, taking up less space in your kit.

In certain situations, a bleeding wound that was successfully staunched might re-bleed during

➤ **Right:** You should always have nitrile gloves in your pack. Wearing them when treating the patient will keep the wound from becoming contaminated.

➤ **Below, left:** The SWAT (stretch, wrap and tuck) tourniquet is a versatile piece of gear. Besides acting as a tourniquet, it can also be used as a pressure dressing and elastic bandage. If kept in a survival kit, there are multiple other uses it can provide to help you stay alive.

➤ **Below, right:** If normal compression with gauze does not stop the bleeding, direct pressure can be applied with the Celox pads for three minutes. After that, the pads can be kept on the wound with the roller gauze.



transport. To help prevent this, immobilize the injury with items such as a structural aluminum malleable (SAM) splint.

SAM splints also come in handy for another hazard of urban survival: orthopedic injuries. Fractures and sprains could occur when traveling rapidly in the midst of the rubble and debris. Elastic (ACE) wraps, braces, ice packs and pain meds are helpful additions to your kit. Casting materials made of plaster of Paris and fiberglass, as well as stockinettes and padding, will allow the ambitious medic to give even more protection to the worst of these injuries.

The ambitious medic will also have wound closure materials in their kit. Sutures, needle holders, Adson's or other toothed forceps, glues, Steri-Strips and staples are supplies that will offer more options for dealing with lacerations and open wounds.

It's important to realize that most urban wounds will be dirty, so closing a wound is often not the right choice. When a wound should remain open and heal from the inside out (known as granulation), regular dressing changes and cleanings are required, preferably at least twice a day. Using a 60 or 100 cc syringe to flush out debris and old clots from the wound is called "irrigation." Use sterile water, saline solution or dilute povidone-iodine solution to keep the wound moist (not soaking wet). Use damp gauze to pack the wound, and then cover it with dry gauze. This method is known as the "wet-to-dry dressing." Over time, new tissue will fill in the defect. The scar might not be pretty, but it's better than developing a major infection.

UNDER FIRE

In many urban areas, hostile encounters will not be uncommon as the situation deteriorates and the battle for resources intensifies. Doing the right thing at the right time is of paramount importance for the medic. This, however, might be different than what you would consider "good" medicine in normal times. In an unsafe environment, good medicine could be bad tactics ... and that could get people killed.

An important goal in these scenarios is to abolish all threats, and this means the medic might need to provide suppressive fire before treating victims. The best medical care when under fire is eliminating the enemy—or at least keeping their heads down and weapons silent.

Of course, you want to attend to wounded group members immediately. Sadly, the medic is likely to become the next casualty if they run into the line of fire. In wartime, and often on the way to evaluate casualties who



◀ Above, left: Bleeding in an extremity may be slowed by elevating the limb above the level of the patient's heart.

◀ Above, right: An IFAK, or individual first aid kit, enables treatment of some common medical problems encountered in the wilderness or during travel.



“URBAN SURVIVAL SCENARIOS PUT YOU AT CONSTANT RISK FOR ENCOUNTERS WITH HOSTILES THAT INVOLVE PHYSICAL TRAUMA.”

were already beyond help, this is a common way for medics to meet their demise.

It should be understood that many of the tools used to evaluate a victim may be useless in a firefight. Forget trying to listen to a casualty's heart and lungs with a stethoscope if there is heavy gunfire. In addition, it's foolhardy to use a headlamp at night to treat the wounded, because it might well become a shooter's target.

When under fire, therefore, your priorities should be:

- 1 Abolish or suppress the threat.
- 2 Avoid exposure to enemy fire while attempting to reach a casualty.
- 3 Get the casualty and yourself to reasonable cover.
- 4 Use your tourniquet, along with direct pressure and other hemostatic (blood-clotting) methods, to stop heavy bleeding.
- 5 Transport your victim and yourself away from the field of fire.

Notice that we don't mention airway management or cervical spine immobilization—two basic steps in evaluation and transport of trauma victims. Stabilization of the spine is good medicine, but control of hemorrhage will be the most likely way you'll save a life. You won't have time to do much else.

Never forget the importance of cross-training. Everyone should carry some basic medical supplies while on patrol and should know basics of hemorrhage control, especially how to apply a tourniquet to themselves if wounded.

There's a lot more to surviving in urban disaster settings, but with some supplies, know-how and training, have no doubt: You *will* save lives. **ASG**



DIY STERILE SALINE SOLUTION

You can buy sterile saline solution for irrigating wounds, but you can also make it yourself. Follow the directions below, and your solution should remain sterile for a month or so when sealed (but not very long at all once opened).

- ◀ Place 1 liter of water and 2 teaspoons of non-iodized salt (not rock salt, because it has added chemicals. Kosher salt will work) in a pan with a lid.
- ◀ Use a heat source to get the solution to a rolling boil for 15 minutes.
- ◀ Let it cool, keeping the pot lid on.
- ◀ Pour the solution into sterile canning jars and then close them with sterile canning lids.

—Joe Alton, M.D.



**A LOOK AT TECHNOLOGY AND
THE SEA'S APEX PREDATOR**

BY WILL DABBS, M.D.

OF SHARKS AND SHARK REPELLENT



GETTY IMAGES.COM/RY:BY WILDESTANIMAL

There is something primal and horrifying about the prospect of being eaten alive. As a youngster, I first saw the movie, *Jaws*, in the theater, and that experience seems to have fundamentally warped my psyche.

Swimming in the open ocean is not altogether unlike wandering about a zoo with the doors standing open to the predator paddocks. For many of us, finding oneself afloat in deep, dark water is literally the stuff of nightmares.

However, technology offers some fascinating gear to dissuade these primeval toothy titans of the ocean.

CHEMICAL SHARK REPELLENT

The English company, BCB, derives its name from Dr. Brown's Cough Bottle, a medicinal concoction produced in 1854 to treat common respiratory maladies.

Since that time, BCB has produced a wide variety of innovative products for both civilian and military consumption. In addition to survival rations, wall-breaching systems, water coolers and (I'm not making this up) blast-protective underwear, it also produces



◀ Above: A great white shark on the move (Photo: Mike Rutzen)

◀ Below: Divers on a boat watch sharks gathering below their boat. (Photo: Sijmon de Waal)

the shark repellent used by many of the world's navies.

BCB shark repellent consists of a foil-packed sachet. When squeezed in water, the sachet releases crystalline acetate, which produces a dense, black ink cloud, as well as a chemical effect that repels and disorients sharks. The inner bag has an attachment cord to keep it close to the body.

This NATO-approved product has its own national stock number and is standard issue in military life rafts and airborne survival packs. For more information, visit www.BCBin.com.



**“IT IS INNATELY
TERRIFYING
TO BE IN AN
ENVIRONMENT
WHEREIN
YOU HAVE NO
CONTROL AND
ARE NO LONGER
AT THE TOP OF
THE FOOD CHAIN.”**



SHARKSTOPPER

The Sharkstopper is a patented electronic acoustic device that repels sharks via a specific combination of sonic frequencies sharks find objectionable. This unique combination of tones combines the noise produced by orcas, (sharks' natural enemies), along with the shark equivalent of fingernails on a chalkboard.

The Personal Shark Repellent (PSR) device straps to your leg and weighs about the same as a smart phone. This rechargeable device activates automatically on contact with water and turns itself off when it dries out. The effective range of the device is said to be between 5 and 10 meters, and it has been field-tested on 10 different species of shark.

The Watercraft Shark Repellent (WSR) is a console-sized device that operates off a boat's integral power supply and produces a shark-repelling sonic field around the boat that is said to make the area safe for swimming.

Both the PSR and WSR have been extensively tested around heavily baited areas and, according to the manufacturers, they were found to be effective. Videos on www.SharkStopper.com bear this out.

PARTING BITES

It is innately terrifying to be in an environment wherein you have no control and are no longer at the top of the food chain. Should you potentially find yourself at sea and adrift, these two companies offer products to help keep you from becoming something's dinner.

➤ *Right, top:* Walter Bernardis rides the fin of a large tiger shark. (Photo: Al J. Venter)



➤ *Right, bottom:* The great white is one of only a few shark species known to regularly lift its head above the sea surface to gaze at other objects, such as prey.





SHARK FRENZY

STORY AND PHOTOS BY AL J. VENTER

FACTS, FICTION AND EPIC TALES OF SURVIVING AN ATTACK

As a sport diver with five decades of experience behind me (as well as nine books I've written on the underwater milieu), I've had my share of run-ins with sharks. My home waters are the Indian Ocean, which is full of them. There are not many great whites, but quite often, there are enough tiger and bull sharks to hold the attention of most divers upon returning to the boat.

GOING EYE TO EYE

Farther south, toward Cape Town (South Africa), I've had two notable experiences with great white sharks—neither anticipated nor planned. The first happened while diving off the wreck of the British steamer *Maori*, which went down in waters about 100 feet deep more than a century ago (you can Google her). The day we visited the hulk, visibility was bad, perhaps 6 feet maximum.

Although we couldn't see far underwater, there is little doubt the shark was present throughout the dive, because there are often seals in that area. When I eventually surfaced and began to get back on board the dive boat, and having handed my gear to the attendant, a huge shark—it must have been 16 or 18 feet long—popped its head out right next to where I was dangling in the water. It focused one great, black, round eye on me for a few seconds, and then silently, it slipped back into the depths.

The other great white "happening" was also near Cape Town. A huge shark shot past my buddy and me in fairly shallow seas, obviously intent on something ahead that was beyond our vision. That was near Fish Hoek, where there has been a spate of attacks in recent years (to the extent that the authorities now have shark watchers on high points to warn bathers if there are predators around).

ATTACK REALITIES

The bottom line here is that although I have been among aggressive sharks that were quite threatening (bull and tiger sharks), I have never been bitten. Some of my pals have, but they were spearfishing at the time.

Statistically, as I always tell novice divers,

› Being aware of your surroundings will keep you from swimming directly into trouble that could possibly have been avoided.



"FOR MANY OF US, FINDING ONESELF AFLOAT IN DEEP, DARK WATER IS LITERALLY THE STUFF OF NIGHTMARES."

you have more chance of having a road accident on the way to your dive than being attacked by a shark. Judge for yourself: Every day, there are millions of people swimming in the sea, and yet, there are comparatively few reports of attacks.

SURVIVING THE BITE

And even when attacks do occur, there is hope, because not all shark attacks are fatal.

Take Kevin Ellis, son of the world's most famous mercenary helicopter gunship pilot, Neall Ellis. Also a chopper pilot, Kevin was attached late in 2014 to a United Nations peacekeeping unit in Mogadishu, Somalia. After returning to base each evening, he would head out to the lagoon for a swim.

That pattern continued for some months. Then, one evening, Ellis was attacked, probably by a tiger shark. He lost a leg, which was sliced off clean through the knee.

Ellis's story is remarkable, because unaided, he had to swim ashore after the attack and then



› Sicklefin lemon sharks are known to mainly cruise the ocean's bottoms but will approach the surface in pursuit of prey.

haul himself up the beach in an attempt to get to his cell phone so he could call for help. Although he was surrounded by a bunch of distressed Somalis, none offered assistance.

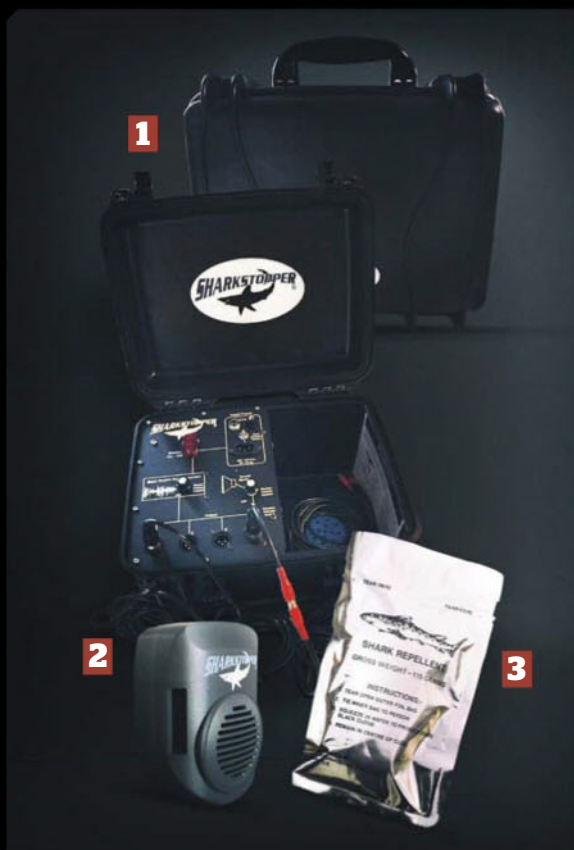
Fortunately, there was a Ugandan soldier on the beach who had completed a medic's course. He helped stem the blood flow by using Ellis's shirt as a tourniquet. By now almost losing consciousness, Ellis managed to get through to the base operations center and told them to send an ambulance. They thought he was joking, but the soldier grabbed the phone and told them to move their butts.

An hour after the attack, Ellis was on the operating table, and a Russian doctor saved his life. Two days later, he was airlifted to a hospital in Cape Town to the one facility in Africa that has good experience with this kind of trauma.

The story ends well. As tough as his father, Ellis didn't wait the mandatory three months to start planning for a prosthetic leg. Within six months, he was active again. Today, he is flying commercially again out of Dar es Salaam. He is also diving, kite surfing, mountain biking and doing most of the things fit and healthy young people like to do.

I have not personally used the Sharkstopper, an electronic personal shark-repellent device, but I was present when several divers tried a set out in Indian Ocean waters. There were sharks around when we entered the water off Aliwal Shoal, south of Durban, and they were curious. But once the set had been activated, they moved away, and we didn't see them again.

There have also been good reports about BCB chemical shark repellent. The fact that it is NATO approved suggests that tests have been exhaustive. **ASG**



◀ 1. During extensive tests under "baited-water" conditions, the Sharkstopper WSR has repelled more than 15 species of sharks at more than 40 meters away. 2) Sharkstopper's PSR automatically powers itself on and off via sensors that detect the presence of water. 3) BCB shark repellent contains a chemical and a thick, black dye that has been proven to repel and disorient sharks. The inner bag has an attachment cord so it can be kept close to your body.



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FORAGING THE MOUNTAIN WEST

GOURMET EDIBLE PLANTS, MUSHROOMS AND MEAT

BY THOMAS ELPEL AND KRIS REED

Foraging the Mountain West, by Thomas Elpel and Kris Reed, was a very daunting undertaking—and these two authors pulled it off very well. The vast area that is covered made this book a huge task. This had to be a labor of love, mixed with their knowledge of the terrain and botany. The result? We all win.

This 340-page, all-color book covers the Rocky Mountains west to the Sierra Nevada and north to the Cascades. Plus, it encompasses everything from the valley bottoms to the mountaintops.

Too hot, too cold, too windy, too wet, too dry and too smoky all reflect the realities of the forager in this area. This field guide will get you through it all, because Elpel and Reed use a pattern-based approach to help you along the way.

For instance, there are about 55 species of gooseberries and currants in North America, so rather than featuring just one or two species as separate entries, the authors combine all gooseberries and currants (of the genus, *Ribes*) in one description, along with photos of multiple species to show the range of variation. This book empowers you to recognize other species of *Ribes* anywhere in North America.

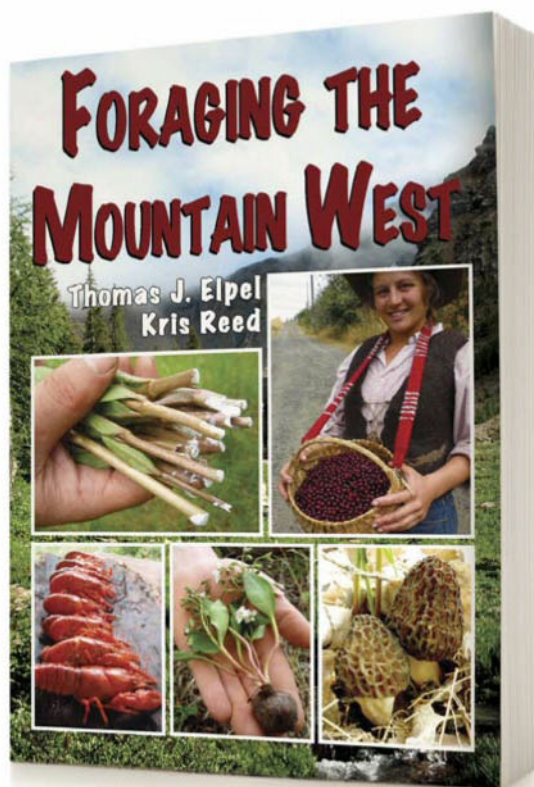
The study of ethnobotany is a daunting task, but you have to start somewhere. Christopher Nyerges always suggests that you begin this study locally, ideally by going into the field somewhere near your home with an expert. You then continue your study with good books. A glance at the many ethnobotany books out there shows they are all organized differently.

Professional botanical books tend to be organized by plant families—the system used by all botanists. Some books are alphabetical, and some are organized into categories by environment (i.e., plants that grow in the desert, near water, etc.). Some are even organized by flower color (which tends to be a very poor method).

However, Elpel and Reed have organized their book by the following major categories: salads and greens, roots, fruits, seeds and nuts, mushrooms, harvesting and scavenging. The book caps off with a section on foraging as a lifestyle.

It is loaded with photos of excellent quality. Some could be a bit larger, but all are very good. Elpel and Reed cover and illustrate the details of how to prepare all the wild foods they mention and also address gleanings as a way to add to a larder. They deal with such things as the legalities of foraging, using road kill, dumpster-diving and other methods of procuring food. The chapter called “Hunting 101—Sticks, Rocks and Spears” is an added bonus for many of us.

I cannot recommend this work highly enough. It is a masterpiece of information



for anyone who is interested in any of the forms of foraging or is concerned about urban or wilderness survival needs to learn how to harvest wild plants. The what, where, when, why and how to gather the wild is waiting for you in this book.

Tom Elpel is also the author of *Botany in a Day*, which naturalist Christopher Nyerges has called “the quintessential book for learning botany.” Elpel has also written *Participating in Nature* and other great books on the subject.

Foraging the Mountain West is a refreshing read—almost like reading a diary exploring the West and harvesting wild foods along with the authors. It’s a rare glance at what one can achieve once armed with these skills and knowledge. **ASG**

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WORDS

LAST

THRIVING TOGETHER

Real survival is not a sport. It is not a computer game or a reality TV show. Survival is not a concept that intellectuals discuss over latte. Nor is it a topic for science fiction novels. Survival is that live-or-die feeling that emanates from our deepest desire to continue our lives. It is the deepest instinct of humankind and the entire animal kingdom.

We joke about the apocalypse and zombies and the end of the world, and yet, due to our ability to adapt and to condition ourselves, we live all the time with factors that threaten our very survival. But we address those factors, and we modify and change, and hopefully, we survive.

Human society stands as a testament to human ingenuity, adaptability and the desire to survive. Our growth and our ability to harness and utilize nature all arose from our desire to survive. Now, the main threat to our survival as a species seems to be—of all things—ourselves!

We know the natural threats to our survival: earthquakes, mudslides, tsunamis, floods, hurricanes, tornadoes and maybe even occasional millennia when a comet hits the earth. The so-called “acts of God” will be contended with when they happen, and it seems they will always be with us. We can’t stop acts of God, but we can prepare.

On the other hand, as our urban centers grow increasingly larger, we wonder if we will turn into a *Blade Runner*-type world, in which we’re all cramped into ever-tighter quarters.

We have to be concerned about the “acts of man” that continue to threaten our survival: terrorism, war, bombs that nations point at other nations, dictatorial regimes led by madmen, economic chaos that drives our lives into the dirt, rampant plague and disease from poor hygiene, and so many other preventable crises.

Some of these “acts of men” we can do something about, while others we cannot. But we can inform ourselves, and we can organize with like-minded individuals. This is perhaps the most important step we can take, because as our society has grown ever larger and vastly more technologically oriented, with leaders that seem ever-distant, we realize that it’s important to try to take control of whatever we can of our individual lives. We realize that knowledge is power and, by increasing our personal sense of responsibility and awareness, we can at least move our lives in the right direction.

Self-sufficient and neighborhood cooperativeness is the path to sustainability and survival.

An associate of mine who told me he hates his neighbors said his ace in the hole in the event of a major disaster is his uncle in Minnesota who has a self-sufficient farm and home and produces his own power. “Really?” I mocked. “And how do you expect to get to Minnesota?” (My friend lives in urban California).

Like it or not, we’re all in this same boat. In an emergency, your neighbors are your family. Get to know them—now, not later. Get back to our roots of neighbors helping neighbors, and learn to share and support among ourselves. That is our tradition, and that is what made this country great. There is no threat that stouthearted people working together cannot overcome.

We hope you find that the articles we’ve presented this month will make a healthy contribution toward your urban, rural or way-off-the-grid survival and self-reliance.

And we’d really like to hear from our readers. Send your comments and questions to asgfeedback@engagedmediainc.com. **ASG**



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